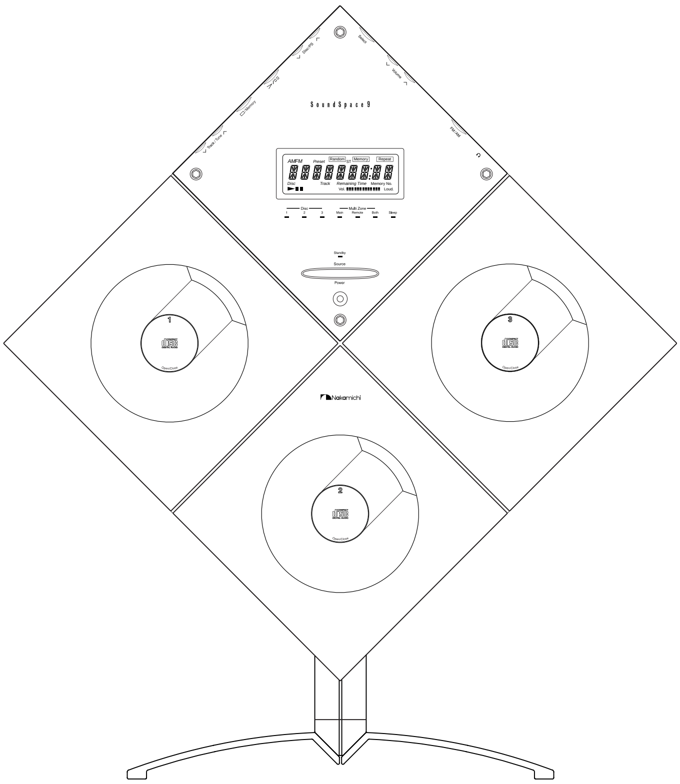
Service Manual

Stereo Music System

SoundSpace 9



Nakamichi

GENERAL

1.1. Product Code
D210

Abbreviations for Destinations:

CAN	— Canada	CH	— China
DA	— South America		
EP	— Europe	HK	— Hong Kong
JPN	— Japan	KR	— Korea
OTR	— Other	TW	— Taiwan
UK	— United Kingdom		
USA	— U.S.A.	AUS	— Australia

1.2. System Configuration
The SoundSpace consists of the following units.

● **Main Unit (See pages 1-1, 1-2, ... in this manual)**
Controls entire of the System. Mainly consists of the following sections:
- Control section (including the system control microprocessor)
- Tuner section
- Operation panel control section
- CD player section (including the mechanism control microprocessor)-- 3 identical CD player sections (Interchangeable with each other except for the Door Cap Ass'y on which the disc number is written.)

● **Subwoofer**
(See pages 2-1, 2-2, ... in this manual)
- Subwoofer
- Power amp. section
- Power supply section

● **Satellite Speakers L/R**
(See pages 3-1, 3-2, ... in this manual)

● **Main Remote Control/Sub Remote Control**

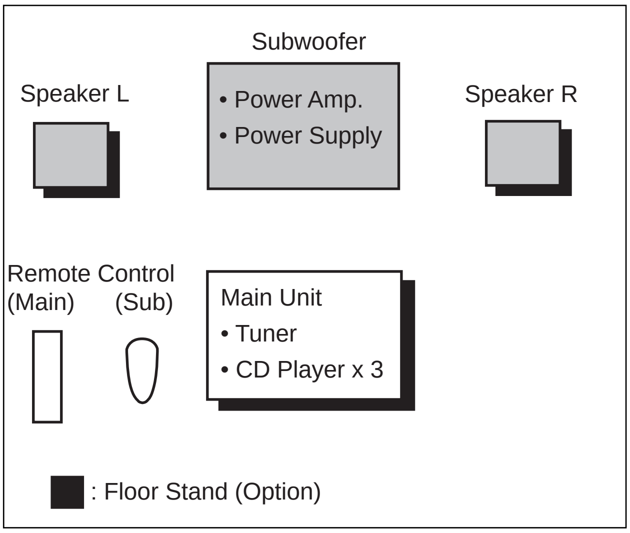


Fig. 1.1 SS-9 System Configuration

● **Floor Stands (Option)**
- Floor stand for Main Unit
- Floor stand for Satellite Speakers L/R

1.3. Cautions/Warnings
(1) Product Safety Notice
Parts marked with the symbol ⚠ in the schematic diagram have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer. It is recommended that the unit be operated from a suitable DC supply or batteries during initial check-out procedures.

(2) Leakage Current Check/Resistance Check
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamp, or if the resistance from chassis to either side of the power cord is less than 240 k ohms, the unit is defective.
WARNING — DO NOT return the unit to the customer until the problem is located and corrected.

(3) Protection of Eyes from Laser Beam
To protect eyes from invisible laser beam during servicing, ***DO NOT LOOK AT THE LASER BEAM*** on the Changer.

(4) Laser Caution
CAUTION
Adjusting the knobs, switches, and controls, etc. or taking actions not specified herein may result in a harmful emission of laser beams. This CD Player must be adjusted and repaired only by qualified service personnel.

OBSERVERA!
Sådana inställningar av rattarna, omkopplarna eller övriga kontrollknappar som inte är beskriva i bruksanvisningen kan resultera i farlig laserutstrålning. Justering eller reparation av denna kompaktskivspelare skall endast utföras av kvalificerad servicepersonal.

OBS!
Indstilling af knapper, cmskiftere og øvrige kontrolknapper, som ikke følger den i brugsanvisningen beskrevne måde, kan resultere i farlig laserudstråling. Justering eller reparation af denno CD-afspiller må kun udføres af kvalificeret servicepersonale.

OBS!
Justering av ratt, brytere og kontroller andre enn de som er beskrevet her, kan resultere i farlig laserbestråling. Justering eller reparasjon av denne kompaktdiskspilleren ma bare utføres av kvalifiserte fagfolk.

HUOMAUTUS
Jos nuppeja, kytkimiä ja säätimiä ym, säädetään tai laitetta käytetään toisella tavalla kuin on selostettu, tuloksena saattaa olla vaarallista lasersäteiden vuotoa. CD-soittimen säätö ja korjaus on jätettävä aina asiantuntevan huoltoteknikon tehtäväksi.

ADVERSEL: USYNLIG LASERSTRÅLING VED ÅBNING.
UNDGÅ UDSAETTELSE FOR STRÅLING.

VARO!: AVATTAESSA OLET ALTTIINA
NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.
ÄLÄ KATSO SÄTEESEEN.

VARNING — OSYNLIG LASERSTRÅLNING NAR
DENNA DEL ÄR ÖPPNAD. BETRAKTA
EJ STRÅLEN.

CLASS 1
LASER PRODUCT

THIS COMPACT DISC PLAYER IS CLASSIFIED AS A CLASS 1 LASER PRODUCT.
THE CLASS 1 LASER PRODUCT LABEL IS LOCATED ON THE REAR EXTERIOR.

1.4. Handling the Laser Pickup

In case of repair or replacement of the Laser Pickup, pay attention to the following handling instructions since the laser diode in the Laser Pickup is not resistant to static electricity.

(1) Grounding

When you repair a Laser Pickup, first ground the human body, as well as the measuring instruments and other tools (with particular caution to soldering iron). What's more, your workbench and floor should desirably be grounded using conductive sheet or copper plate. See Fig. 1.2.

NOTE: Be careful so as not to let your clothes touch the Laser Pickup, as static electricity on the clothes will not be released even if your body is grounded.

(2) Discharge of Electricity

Be sure to discharge electricity from objects brought into contact with the Laser Pickup (i.e., soldering iron, tweezers, probes, volt-ohm-meter probes, etc.) before starting work by contacting them with the body chassis. Besides, never touch the Laser Pickup while power is applied.

(3) Soldering Iron to be Used

The soldering iron for use in repair work should be: (1) a ceramic soldering iron, (2) a soldering iron with its metal part grounded, or (3) a soldering iron whose insulation resistance after five minutes of power application is 10 M-ohm or more at 500 VDC. Soldering should be completed promptly, at a soldering iron temperature of 320° max (39 W). A soldering iron heated above this temperature can break down the laser diode.

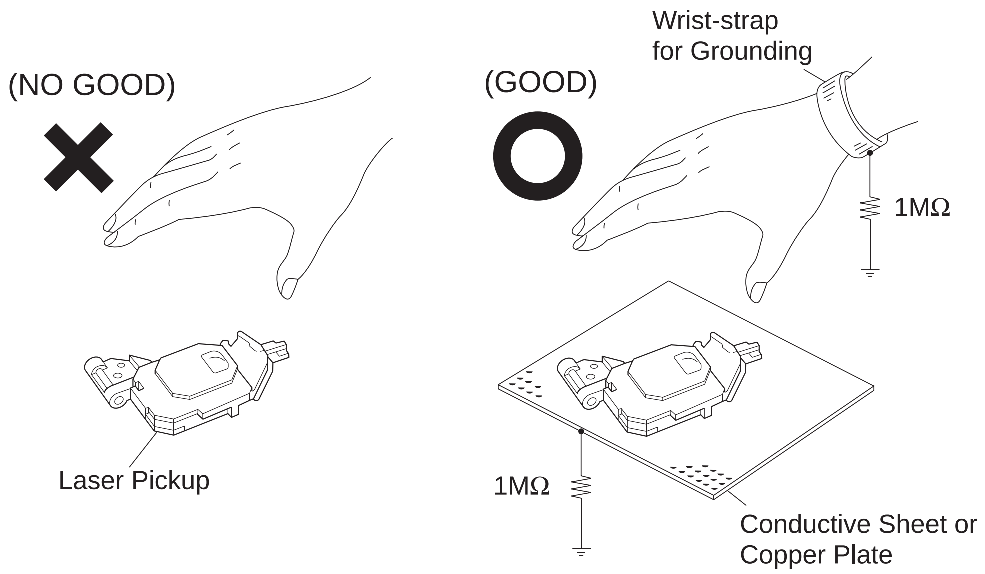


Fig. 1.2 Handling the Laser Pickup

1.5. Package Ass'y and Accessory Ass'y
(1) Main Unit

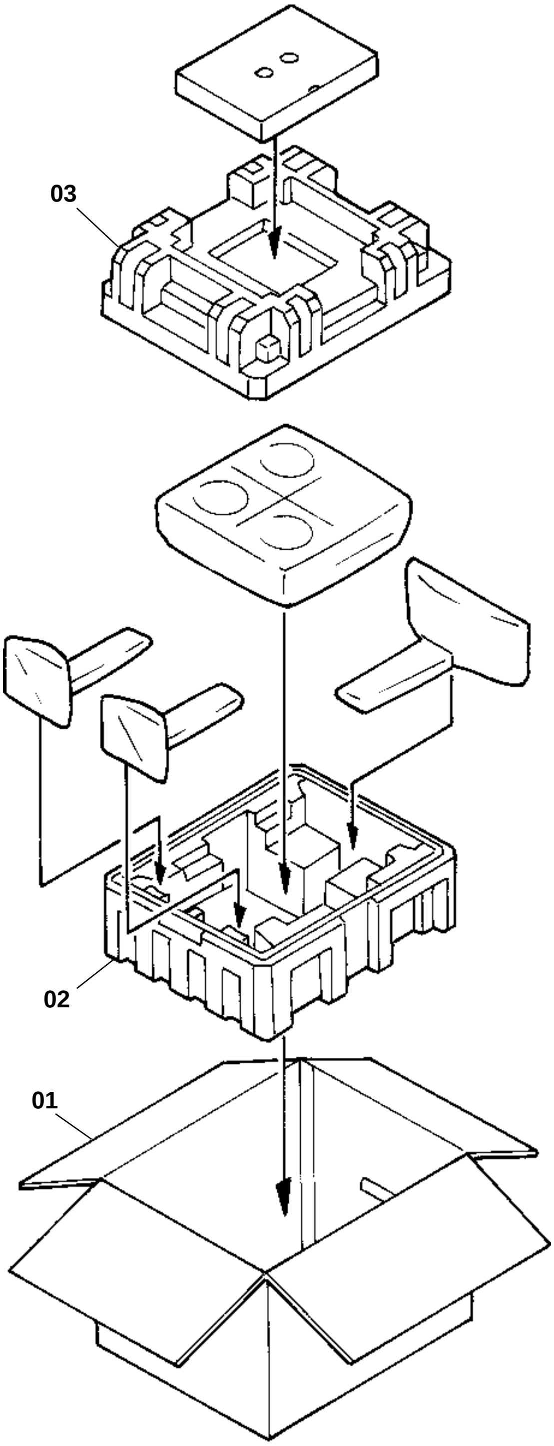


Fig. 1.3 Main Unit

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Package & Accessory Ass'y (Main Unit)**	
01	0F05628A	Carton Box	1
02	0F05630A	Packing Bottom Center	1
03	0F05629A	Packing Top Center	1
—	0F05631A	Accessory Box	1
—	0F05689A	Soft Sheet D Top A	1
—	0F05690A	Soft Sheet D Top B	2
—	0F05692A	Soft Bag Center	1
—	0F05693A	Soft Bag Stand Top	3
—	0B85619A	13P DIN Cable 5m	1
—	0B85620A	3P RCA Cable 5m	1
—	0B90462A	Battery UM4x1	4
—	0B90819A	FM Indoor Antenna	1
—	0B90820A	Antenna Adaptor (JPN, OTR, USA, CAN, DA, TW)	1
—	0B91071A	Antenna Adapter EP (UK, AUS, EP, CH, HK, KR)	1
—	0D03092B	Poly Bag	1
—	0D07105A	Speaker Cable	2
—	0D07238A	AC Cord UL (USA, CAN)	1
—	0D07239A	AC Cord EP (EP)	1
—	0D07240A	AC Cord DA/DU (OTR, DA, TW)	1
—	0D07241A	AC Cord DM (JPN)	1
—	0D07242A	AC Cord BS/HK (UK, HK)	1
—	0D07243A	AC Cord CH (CH)	1
—	0D07244A	AC Cord KR (KR)	1
—	0D07245A	AC Cord SA (AUS)	1
—	0D07371B	Owner's Manual Japanese	1
—	0D07372B	Owner's Manual English	1
—	0D07375A	Template	1
—	0D07376A	Owner's Manual Korean	1
—	0D07450A	Owner's Manual French	1
—	0D07451A	Owner's Manual German	1
—	0D07452B	Owner's Manual Spanish	1
—	0D07453A	Owner's Manual Italian	1
—	0D07454A	Template Speaker	1
—	0D07477A	AM Loop Antenna	1
—	0F05693A	Soft Bag Stand Top	1
—	0H08216A	CD Single Adaptor (JPN)	1
—	0H08749A	Cable Holder	1
—	0H09008E	Stand Holder Cover Center	1
—	0H09012A	Stand Pole Cover L67	1
—	0H09013A	Stand Pole Cover L82	2
—	0H09031A	Base Cover Center DT	1
—	0J08862A	Pole Cover Cushion	1
—	DA05574A	Screw Ass'y D210	1
—	DG05310A	Remote Control Sub Ass'y SS—5	1
—	HA08444A	Main Remote Ass'y SS9 (Except UK, EP)	1
—	HA08447A	Main Remote Ass'y RDS SS9 (UK, EP)	1

(2) Subwoofer and Satellite Speakers

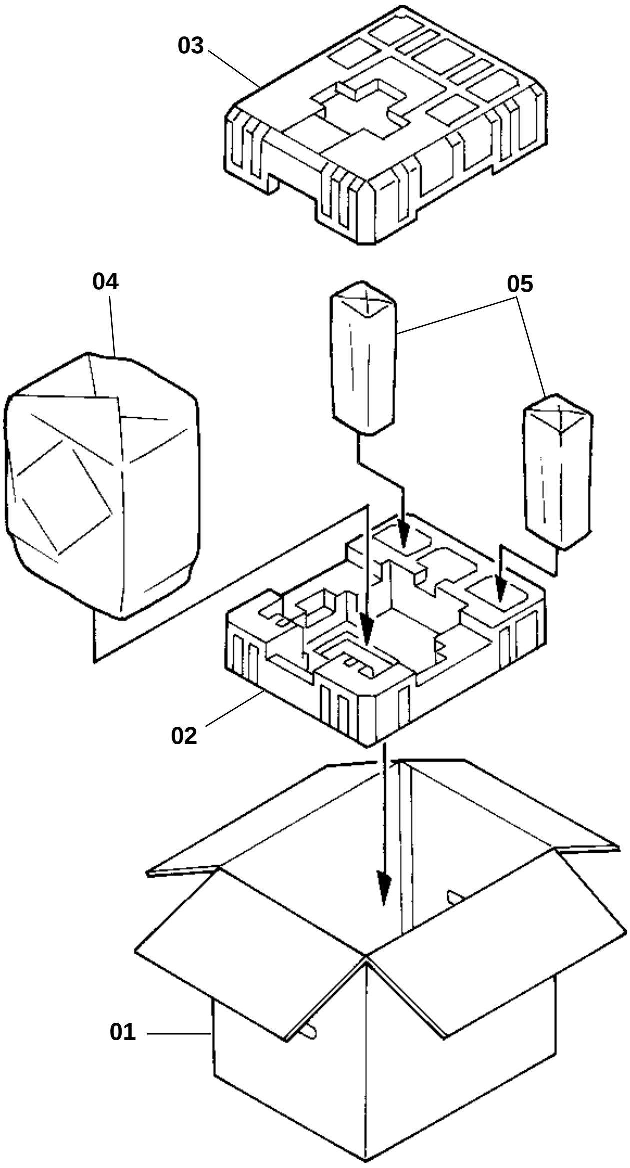
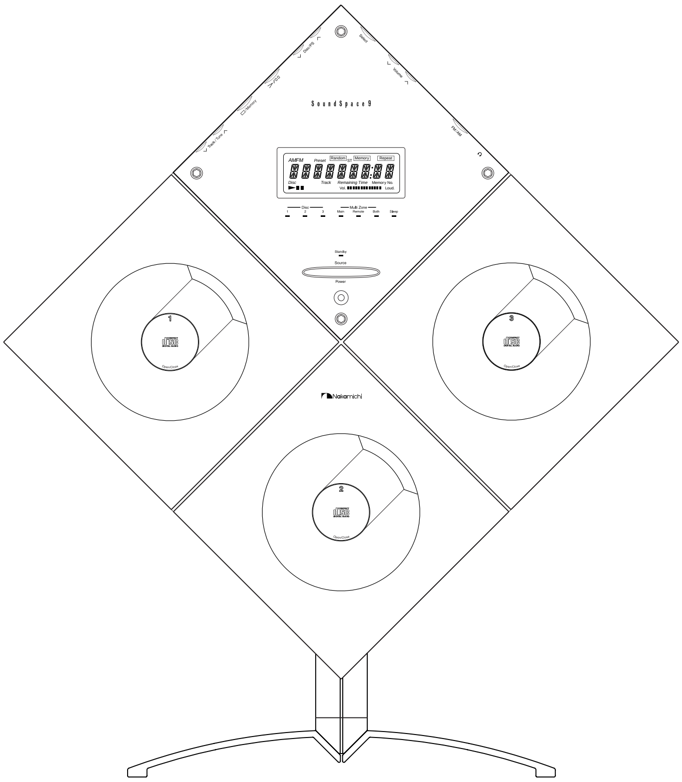


Fig. 1.4 Subwoofer and Satellite Speakers

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Package and Accessory Ass'y (Subwoofer and Satellite Speakers)**	
01	0F05694A	Carton Box S369	1
02	0F05703A	Packing Bottom Subwoofer	1
03	0F05702A	Packing Top Subwoofer	1
04	0F05691A	Soft Sheet Subwoofer	1
05	0F05541A	Soft Bag Satellite	2
—	DA05647A	Screw Ass'y S369	1
—	DA05648A	Spacer Ass'y S369	1

Main Unit

Main Unit Section



CONTENTS

1. REMOVAL PROCEDURES

> ***NOTE:*** *When parts required lubrication are replaced or reassembled, apply specified lubricant to the parts. For the parts which require lubrication, refer to 3. "MECHANISM ASS'Y AND PARTS LIST."*

1.1. Rear Cover

Refer to Fig. 1.1.

(1) Remove F01 (Main Jack Cover) by pulling it out.
(2) Remove screws F02 (ST3x8 + Binding (Black), 5 pcs.) and F03 (PT3x10 + Trass, 4 pcs.), and detach F04 (Rear Cover) from the main body.

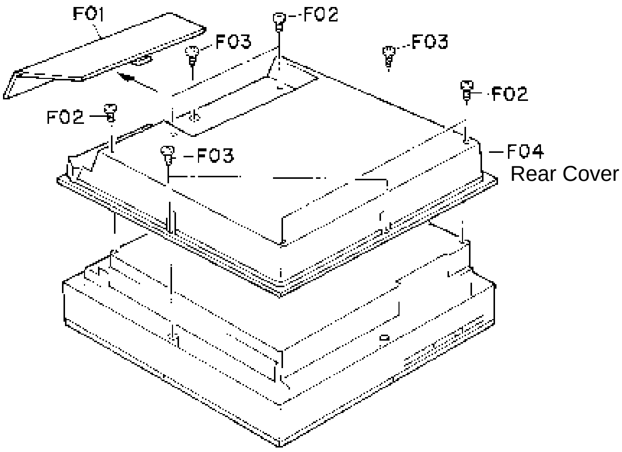


Fig. 1.1

1.2. Main P.C.B. Ass'y

Refer to Fig. 1.2.

(1) Remove the Rear Cover. Refer to item 1.1.
(2) Remove screws F01 (ST3x4 + Binding, 15 pcs.) and F02 (M2.6x4 + Binding, 2 pcs.), and detach F03.
(3) Remove screws F04 (ST3x5 + Binding, 10 pcs.) and F05 (ST2.6x4 + Binding, 2 pcs.), and detach F06 (Main P.C.B. Ass'y).

Notes on reassembling:

- *Connect the cables #1, #2 and #3 to the connectors #1, #2 and #3 on the Main P.C.B. Ass'y, respectively.*

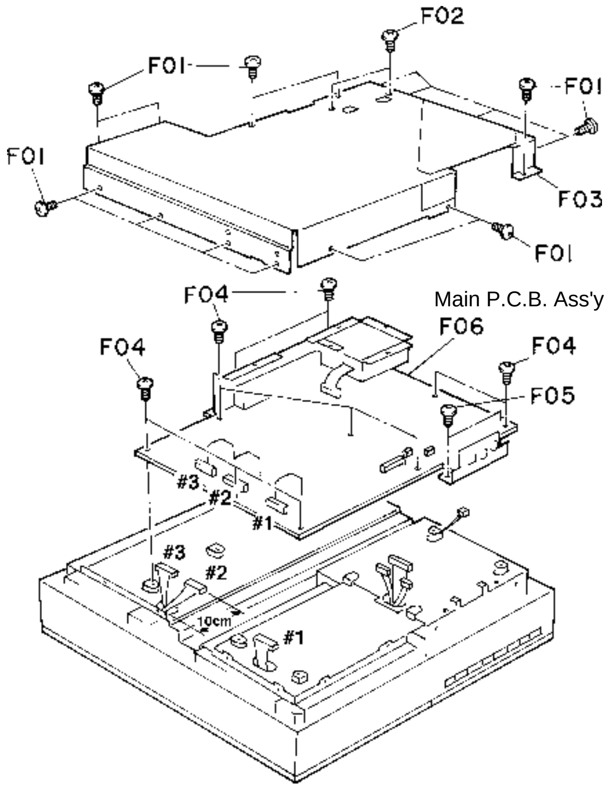


Fig. 1.2

1.3. Mechanism CD Ass'y

Refer to Fig. 1.3.

(1) Remove the Main P.C.B. Ass'y. Refer to item 1.2.
(2) Remove screws F01 (M3x8 + Binding (2A), 8 pcs.), F02 (Damper Collar, 8 pcs.) and F03 (Mecha Damper, 8 pcs.).
(3) Lift the Escutcheon and remove F04 (2 pcs.) from F05 (Mechanism CD Ass'y 1-No. 2) and F06 (Mechanism CD Ass'y 1-No. 3).

Note: *The Mechanism CD Ass'y 2-No. 1 can be removed in the same way.*

Notes on reassembling:

- When assembling the Mechanism CD Ass'y 1-No. 3, with the Mechanism CD Ass'y 1-No. 2 not assembled yet, pass the cable of the Mechanism CD Ass'y 1-No. 3 over the frame "A". Otherwise, you cannot assemble the Mechanism CD Ass'y 1-No. 3.
- Pass the cables of each Mechanism CD Ass'y through the holes "B" and "C" as shown in Fig. 1.3. For Mechanism CD Ass'y 1-No. 2/No.3, extend their cables approx. 10 cm.

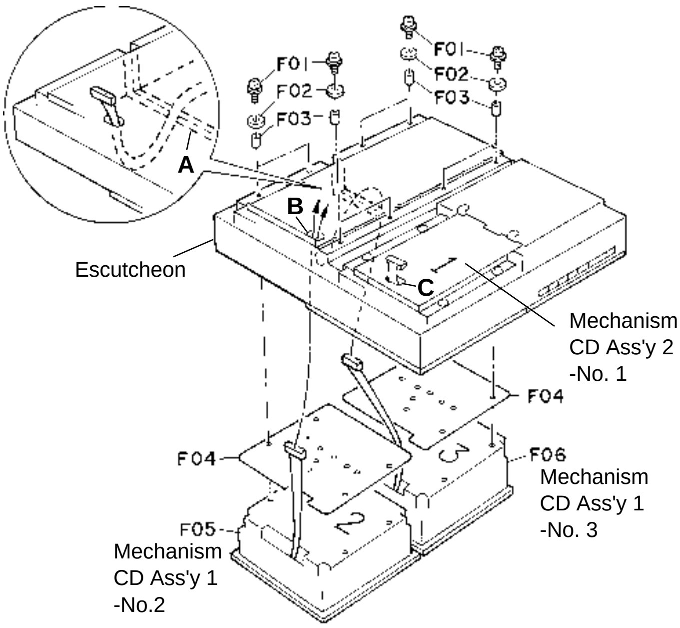


Fig. 1.3

1.4. Front P.C.B. Ass'y

Refer to Fig. 1.4.

(1) Remove the Mechanism CD Ass'y. Refer to item 1.3.
(2) Remove screws F01 (BT2.6x6 + Flat Head, 2 pcs.) and F02 (PT2.6x8 + Flat Head, 2 pcs.), and detach F03 (Dress Plate Side C/D).
(3) Remove screws F04 (2 pcs.) and F05 (PT3x8 + Binding, 5 pcs.), and detach F06 (GND Wire Ass'y).
(4) Remove F07 in the direction shown by the arrow while passing the power switch cable through the hole "A" and 3 connectors through the hole "B".
(5) Remove F08 (Power Switch) outward while pinching its claws inward.
(6) Remove screws F09 (PT3x5 + Binding, 4 pcs.) and F10 (PT3x8 + Binding, 3 pcs.), and detach F11 (Front P.C.B. Ass'y).

Notes on reassembling:

- When assembling F08 (Power Switch), be careful so as not to assemble it upside down.
- When assembling F07, pass the power switch cable through the hole "A" and 3 cables through the hole "B".

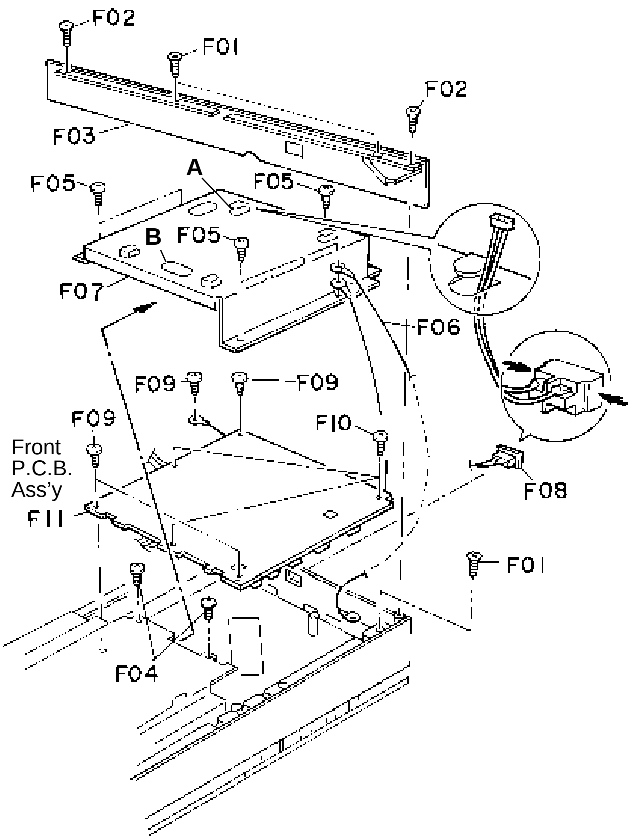


Fig. 1.4

1.5. Mechanism Chassis Block/Door Block of the Mechanism CD Ass'y

Refer to Fig. 1.5.

(1) Remove the Mechanism CD Ass'y. Refer to item 1.3.
(2) Remove screws F01 (M2.6x5 + Binding, 4 pcs.), unhook the spring F02, and detach F03 (Mechanism Chassis Block) from the Door Block.

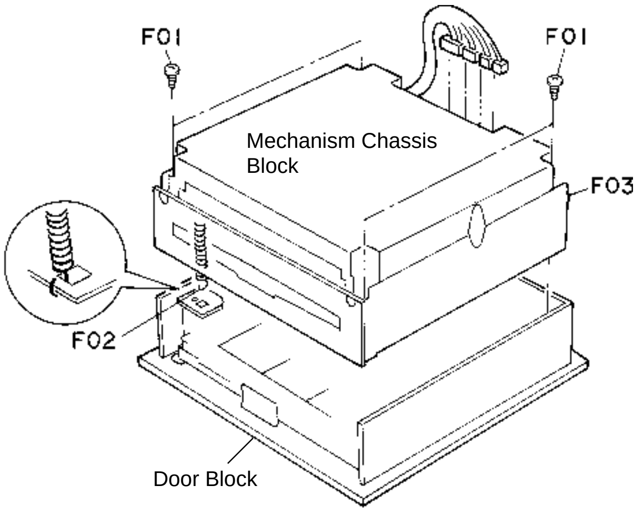


Fig. 1.5

1.6. Disc Loading Ass'y

Refer to Fig. 1.6.

(1) Remove the Door Block of the Mechanism CD Ass'y. Refer to item 1.5.
(2) Remove screws F01 (PT2.6x6 + Binding (Black), 4 pcs.), and detach F02 (Disc Loading Ass'y).

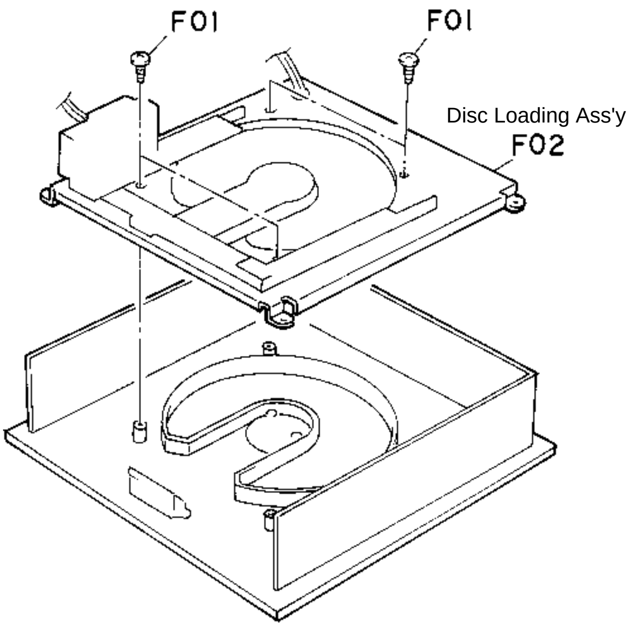


Fig. 1.6

1.7. CD P.C.B. Ass'y and Traverse Mecha Ass'y

Refer to Figs. 1.7.1 and 1.7.2.

(1) Remove the Mechanism Chassis Block. Refer to item 1.5.

(2) Remove screws F01 (M3x5 + Binding (Black), 4 pcs.), F02 (Stabi SP) and F03, and detach F04 (Traverse Mechanism Block). Refer to Fig. 1.7.1.

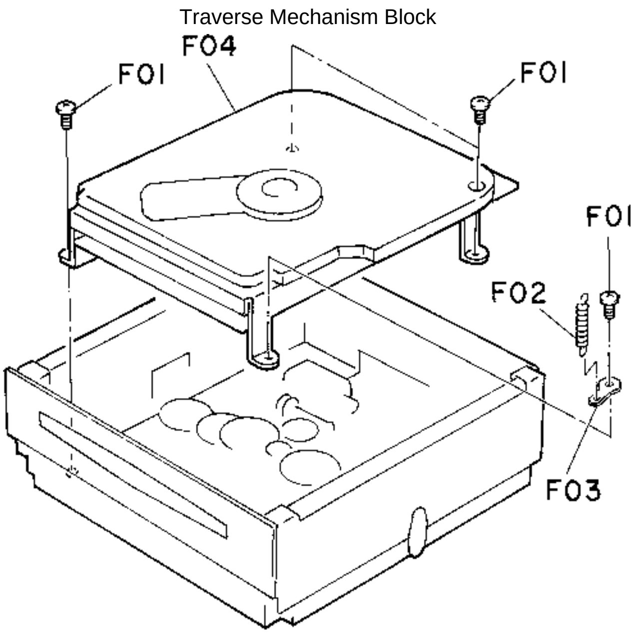


Fig. 1.7.1

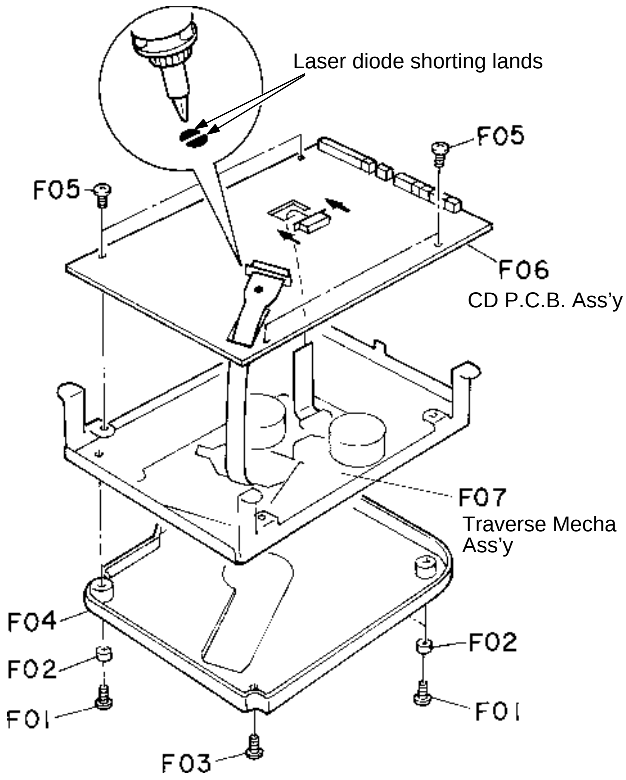


Fig. 1.7.2

(3) Remove screws F01 (M2.6x4 + Binding (Black), 3 pcs.), collars F02 (3 pcs.) and one screw F03 (M2.6x4 + Pan (Black)), and detach F04 (Traverse Cover CD). Refer to Fig. 1.7.2.

(4) Short the laser diode shorting lands with a soldering iron.

Note: *Use the soldering iron whose metal part is grounded or a ceramic soldering iron.*

CAUTION: Do not disconnect the Flexible Cable from the CD P.C.B. Ass'y unless the laser shorting lands are shorted.

(5) Remove screws F05 (M3x5 + Binding), 4 pcs.) and detach F06 (CD P.C.B. Ass'y).

(6) Remove three Damper Screw SL and one Damper Screw SD, and detach F07 (Traverse Mecha Ass'y).

Notes on reassembling:

- Unsolder the laser diode shorting lands after reassembling the CD P.C.B. Ass'y.

1.8. Laser Pickup

1.8.1. Removing the Laser Pickup

Refer to Fig. 1.8.1.

(1) Remove the Traverse Mecha Ass'y. Refer to item 1.7.
(2) Remove screws F01 (M1.7x4 + Pan, 2 pcs.) and F02 (M2.6x3.5 + Pan, 2 pcs.), and F03 (4 pcs.), and disassemble F04 (Laser Pickup Block).
(3) Pull out the PU Guide Shaft SL from the Laser Pickup Block.
(4) Before disconnecting the Pickup Flexible P.C.B. from the Laser Pickup, short the laser diode shorting lands on the bottom of the Laser Pickup. Refer to Fig. 1.8.2.
NOTE: *Use the soldering iron whose metal part is grounded or a ceramic soldering iron.*
(5) Disconnect the Pickup Flexible P.C.B. from the Laser Pickup.

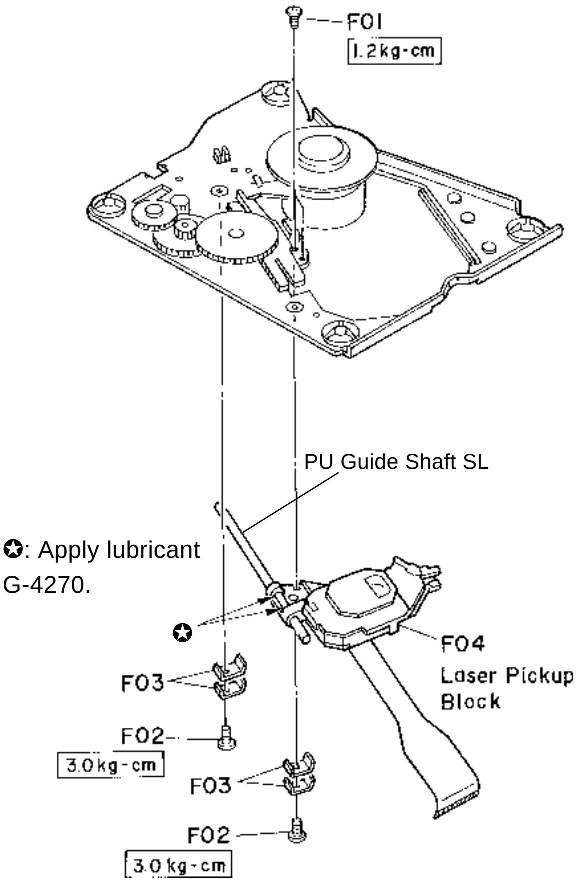


Fig. 1.8.1

1.8.2. Installing a New Laser Pickup

(1) Connect the Pickup Flexible P.C.B. to the new Laser Pickup. Refer to Fig. 1.8.2.
(2) Open the laser diode shorting lands on the bottom of the Laser Pickup.
NOTE: *Use the soldering iron whose metal part is grounded or a ceramic soldering iron.*
(3) Insert the PU Guide Shaft SL into the Laser Pickup.
(4) Assemble F04 (Laser Pickup Block) with F03 (4 pcs.) by tightening screws F02 (2 pcs.) with a torque of 3.0 kg-cm.
(5) Assemble F04 (Laser Pickup Block) with screws F01 (2 pcs.) with a torque of 1.2 kg-cm. Refer to Fig. 1.8.1.

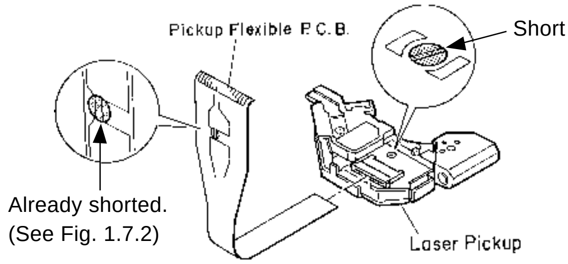


Fig. 1.8.2

1.9. Sled Motor

1.9.1. Removing the Sled Motor

Refer to Fig. 1.9.1.

(1) Remove the Traverse Mecha Ass'y. Refer to item 1.7.
(2) Remove a cut washer F01 and pull out F02 (Second Gear).
(3) Remove screws F03 (M1.7x2.5 + Pan #0 Type 3 (Black), 2 pcs.) and detach the Sled Motor Block.
(4) Remove F05 (First Gear) from F04 (Sled Motor).
(5) Unsolder the wires of F04 (Sled Motor) from the Traverse P.C.B. Ass'y.

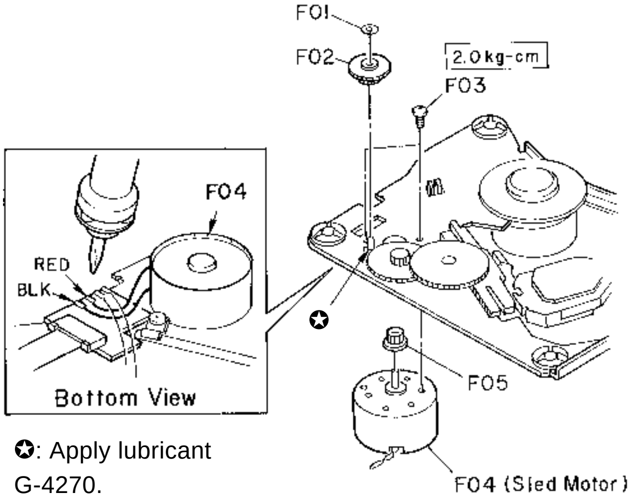


Fig. 1.9.1

1.9.2. Installing a New Sled Motor

(1) Reassemble F04 (Sled Motor) with screws F03 (2 pcs.) with a torque of 2.0 kg-cm.
NOTE: *Pay attention to the sled motor installing direction. Install it as shown in Fig. 1.9.1.*
(2) Press fit a new F05 (First Gear) so that the gap between the chassis surface and the bottom of F05 (First Gear) is 0.1 mm as shown in Fig. 1.9.2.
(3) Solder the wires of F04 (Sled Motor) to the Traverse P.C.B. Ass'y.
(4) Reassemble other removed parts by reversing the removal procedure.

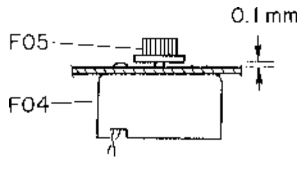
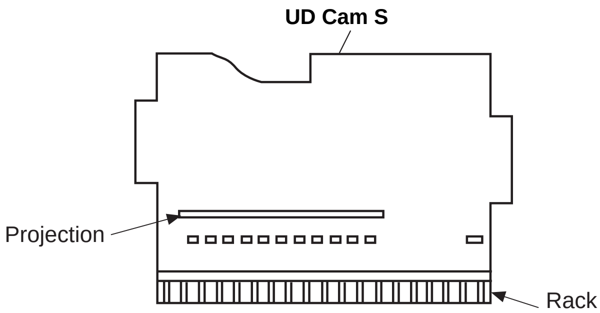


Fig. 1.9.2

How to reassemble the UD Cam S and UD Cam

How to identify the UD Cam S and UD Cam:
The **UD Cam S** is used on the left side of the CD Mechanism Ass'y in Fig. A. It has the projections as shown below:
While, the **UD Cam** is used on the right side of the CD Mechanism Ass'y in Fig. A, and has not projections.
- Note that they move in the opposite direction each other. For example, in Fig. A, when the **UD Cam S** moves backwards, the **UD Cam** moves forward.



(1) Remove the cut washer and pull out the Cam D WW Gear. Refer to Fig. A.
(2) Remove the cut washer and pull out the Cam D L Gear. (Thus, the link between the UD Cam S and UD Cam is lost.)
(3) Assemble the **UD Cam S** on the chassis so that its rack engages with the gear on the chassis. Then, by turning the Cam D L Gear on the chassis, align the edge of the **UD Cam S** with the edge of the chassis as shown in Fig. A. (①)
(4) Assemble the **UD Cam** on the chassis so that its rack engages with the gear on the chassis. Then, by turning the Cam Drive Gear on the chassis, align the edge of the **UD Cam** with the edge of the chassis as shown in Fig. A. (②)
(5) Assemble the Cam D L Gear which was removed in (2) and engage the cut washer. (Then, the UD Cam S and UD Cam are linked.) (③) Refer to Fig. B.
(6) By turning the Cam D L Gear, align the grooves on the **UD Cam S** and **UD Cam** with the center slit of the chassis as shown in Fig. B. (④)
    - Fig. B shows the grooves on the UD Cam. Note that the shape of the **UD Cam S's** grooves are reversed.
(7) Assemble the Cam D WW Gear which was removed in (1) and engage the cut washer. (⑤)

Note: *If the assembled UD Cam S or UD cam is mis-positioned, the UD Plate S Ass'y (L or R) that engages with its grooves cannot be correctly assembled. In this case, you need to repeat above steps.*

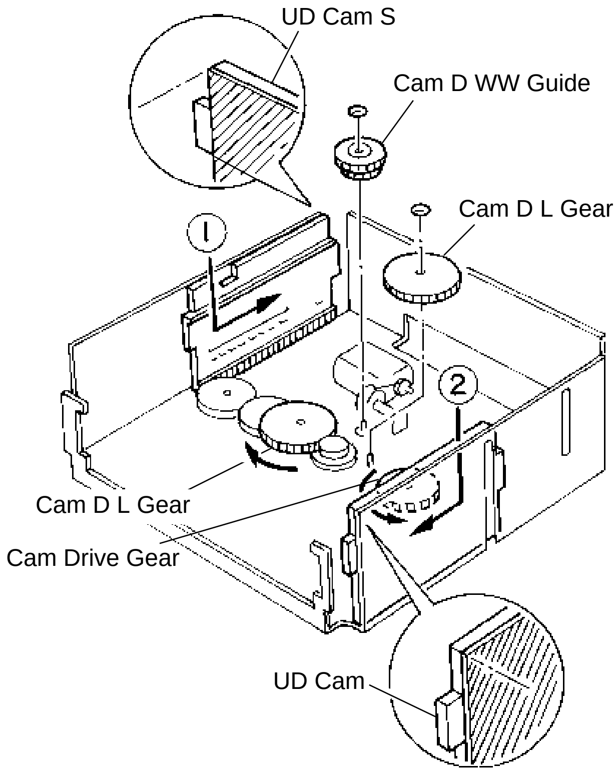


Fig. A

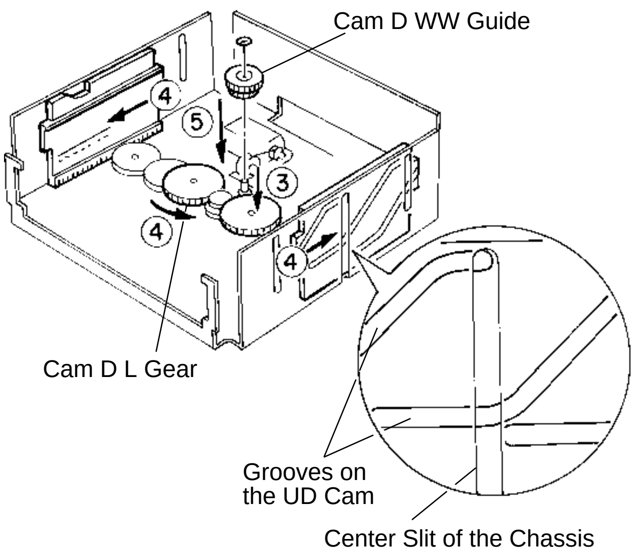


Fig. B

2. ELECTRICAL CHECKS

Perform the following electrical checks for CD Players.

2.1. Measurement Instruments and Jigs

(1) Oscilloscope (40 MHz or more)
(2) DC Voltmeter (Digital Voltmeter)
(3) ABEX Test Disc TCD-784 (DA09195A)
(4) ABEX Test Disc TCD-726A (DA09204A) or TCD-725A

2.2. Parts Location for Electrical Check

● **CD P.C.B. Ass'y of the CD Player**

(Dip Side View)

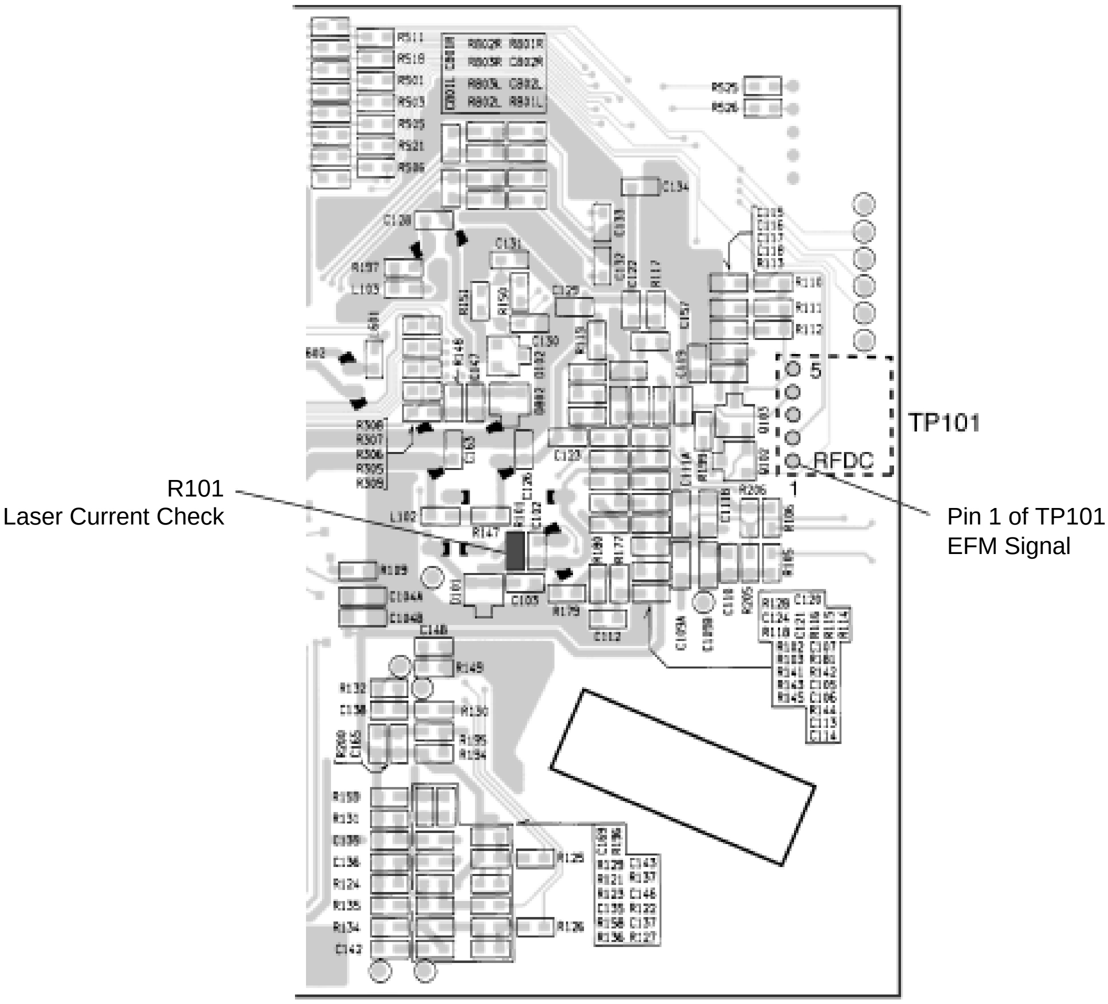
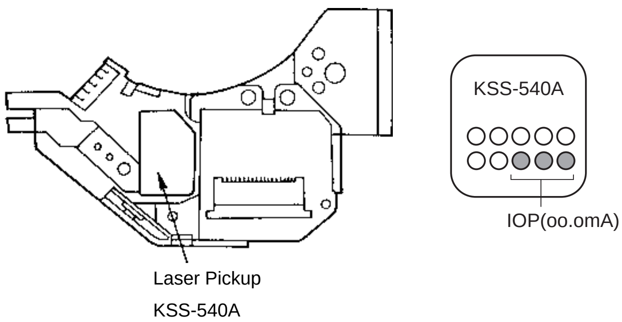


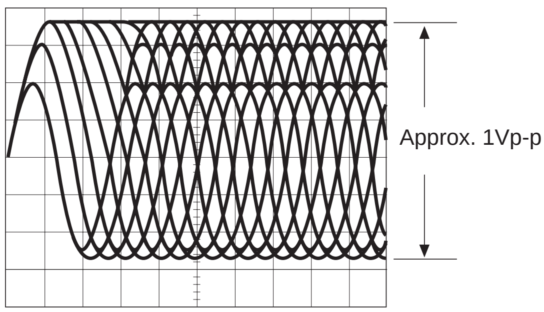
Fig. 1.1 Parts Location for Electrical Check -- CD Player

2.3. Electrical checks for CD Player

Note: *Do the same check for CD Player Nos. 1 to 3.*

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
1	Laser Current Check	ABEX Test Disc TCD-784	DC Voltmeter across R101 on CD P.C.B.	—	1. Turn ON the power and load a test disc. (To load the test disc, press the Open/Close button of the CD Player.) 2. Play back the test disc and calculate the current flowing into **R101** on the CD P.C.B. Ass'y from the following formula. $I(Measured) = \frac{\text{Voltmeter Value}}{\text{R101 (10 Ohms)}} = oo.o\ mA$ Example: $I(Measured) = \frac{510.3\ (mV)}{10\ (ohms)} = 51.03\ mA$ 3. Check that the I(Measured) obtained in 2 and the rated current value (IOP) shown on the label are almost the same. [How to read IOP on the label] The shaded "OOO" on the label shows the IOP. If "OOO" is 475, the IOP is 47.5mA. ***NOTE**: The calculated current (I(Measured)) should be in a range of 30 to 60 mA. If the value is large, the pickup will be defective.* 4. Stop the test disc.
2	EFM Signal Adjustment	ABEX Test Disc TCD-784	Oscilloscope between pin 1 of TP101 and GND on CD P.C.B.	—	1. Play back the first track of the test disc. 2. Be sure that the peak-to-peak value of the EFM waveform is approx. 1V. Oscilloscope Setting: AC Mode, 0.2 V/div, 0.5 µs/div 3. Stop the test disc and eject it.





STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
3	Operation Check	ABEX Test Disc TCD-726 or TCD-725A		—	Make sure that no noise nor track-jumping is found in the following programs on the test disc. To select the desired program, press Track Search button on the Main Unit or Remote Control • Interruption 0.8mm: 4th program • Black dot Ø0.6mm: 8th program • Simulated fingerprint Ø65µm: 13th program

3. MECHANISM ASS'Y AND PARTS LIST

3.1. Main Stand Ass'y

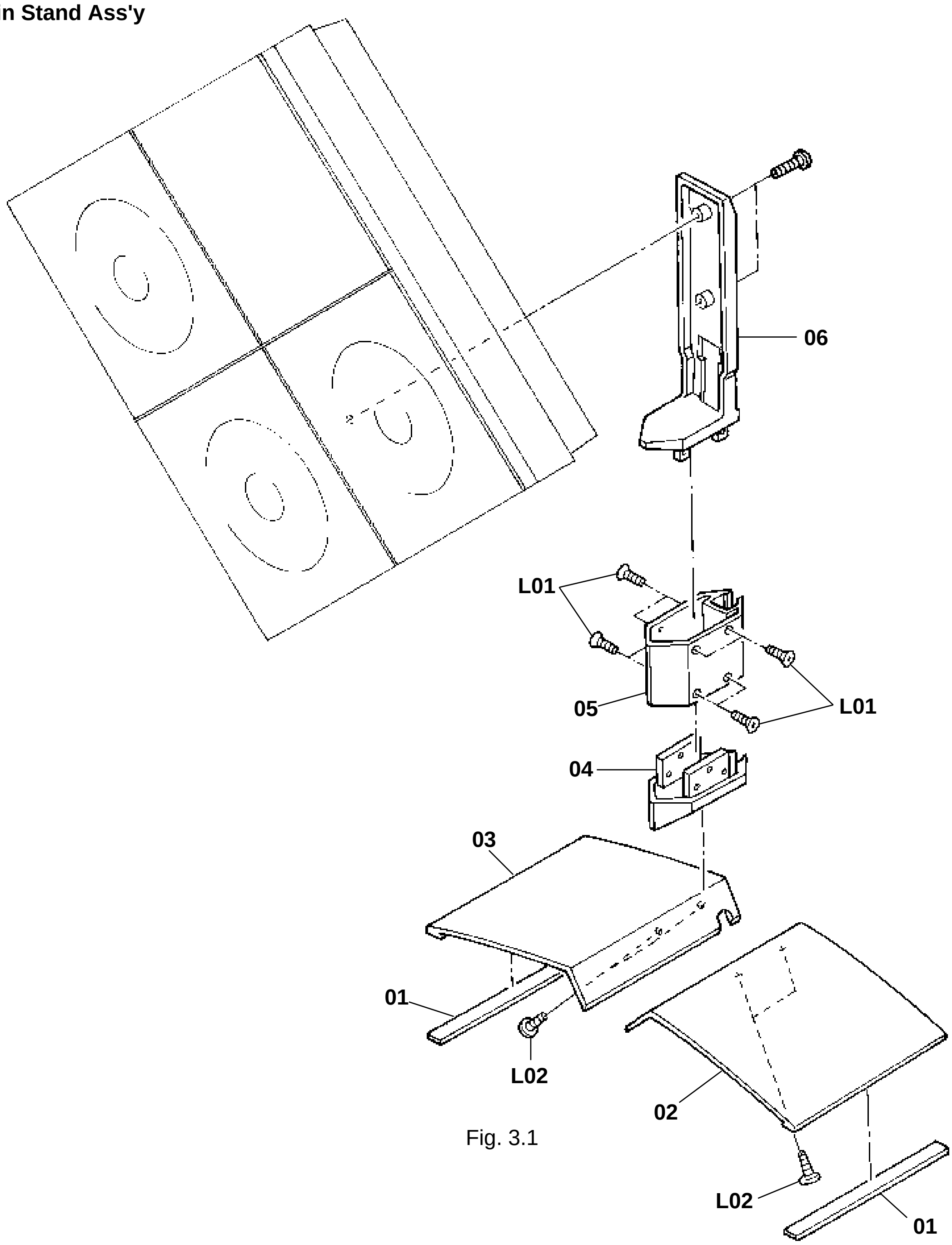


Fig. 3.1

3.1. Main Stand Ass'y

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Main Stand Ass'y (Main Unit)**	**1**
01	0J08792A	Base Cushion Center S	2
02	0H08793B	Stand Base Center R	1
03	0H08792B	Stand Base Center L	1
04	0H08791D	Base Joint	1
05	0H08796B	Stand Pole	1
06	0H08790C	Stand Holder Center	1
L01	0E04323A	BT4x10 + Oval Countersunk	
L02	0E03972A	BT4x12 + Binding	

3.2. Synthesis (Main Unit)

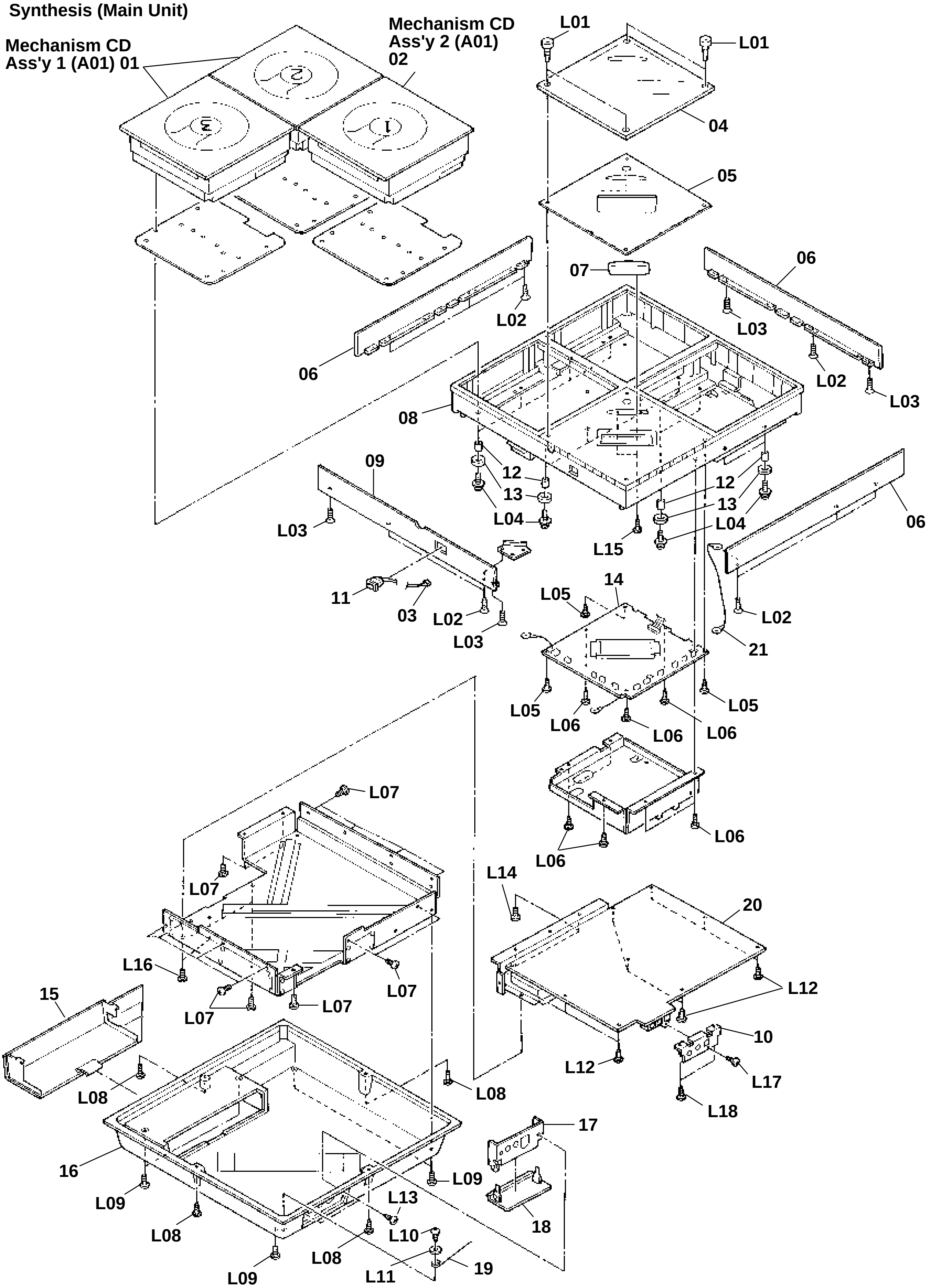


Fig. 3.2

3.2. Synthesis

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Synthesis (Main Unit)**	**1**
01	—	Mechanism CD Ass'y 1	2
02	—	Mechanism CD Ass'y 2	1
03	0B85919A	2P Connector Ass'y (Except USA, CAN, TW)	1
04	0H08732A	Dress panel	1
05	0H08733C	Dress Plate (Except UK, EP)	1
	0H09023A	Dress plate RDS (UK, EP)	1
06	0H08739B	Dress Plate Side A	3
07	0H08730A	P Cap Button	1
08	HA08578A	Escutcheon Ass'y (Except UK, EP)	1
	HA08669A	Escutcheon Ass'y (UK, EP)	
09	0H08740B	Dress Plate Side C (Except OTR, USA, CAN, TW)	1
	0H09018A	Dress Plate Side D (OTR, USA, CAN, TW)	1
10	0J08600B	Mini Jack Plate B	1
11	0B70281A	Power Switch A8CB (UK, JPN, AUS, EP, CH, DA, HK, KR)	1
12	0J08836A	Mecha Damper	12
13	0J08837A	Damper Collar	12
14	BK10352A	Front P.C.B. Ass'y	1
15	0H08725B	Main Jack Cover	1
16	0H08724B	Rear Cover	1
17	0J08599A	Mini Jack Plate A	1
18	0H07947D	Mini Jack Cover	1
19	0J08279A	Mini Jack Cover SP	1
20	BK10318A	Main P.C.B. Ass'y DM (JPN)	1
	BK10319A	Main P.C.B. Ass'y UL (USA, CAN, DA, TW)	1
	BK10320A	Main P.C.B. Ass'y EP (UK, AUS, EP, CH, HK, KR)	1
	BK10321A	Main P.C.B. Ass'y OTR (OTR)	1
21	0B85522A	GND Wire Ass'y	1
—	0J08799A	Shield Sheet Center A	1
—	0J08800A	Shield Sheet Center B	1
—	0B85934A	12P Connector Ass'y	3
L01	0E04237A	PT3x12 Dress Screw	
L02	0E04346A	BT2.6x6 + Flat Head	
L03	0E04326A	PT2.6x8 + Flat Head	
L04	0E04176A	M3x8 + Binding (2A)	
L05	0E04362A	PT3x5 + Binding	
L06	0E03731A	PT3x8 + Binding	
L07	0E04324A	ST3x4 + Binding	
L08	0E04133A	PT3x10 + Trass	
L09	0E03281A	ST3x8 + Binding (Black)	
L10	0E04320A	PT2x8 + Binding	
L11	0E00029A	Washer 2x6x0.4	
L12	0E00877A	ST3x5 + Binding	
L13	0E03283A	ST3 x 6 + Binding (Black)	
L14	0E04325A	ST3x4 + Binding (Black)	
L15	0E04174A	PT2X5 + Binding	
L16	0E00866A	M2.6x4 + Binding	
L17	0E03749A	PT3x8 + Binding (Black)	
L18	0E03573A	ST2.6x4 + Binding	

3.3. Mechanism CD Ass'y 1/Mechanism CD Ass'y 2 (A01)

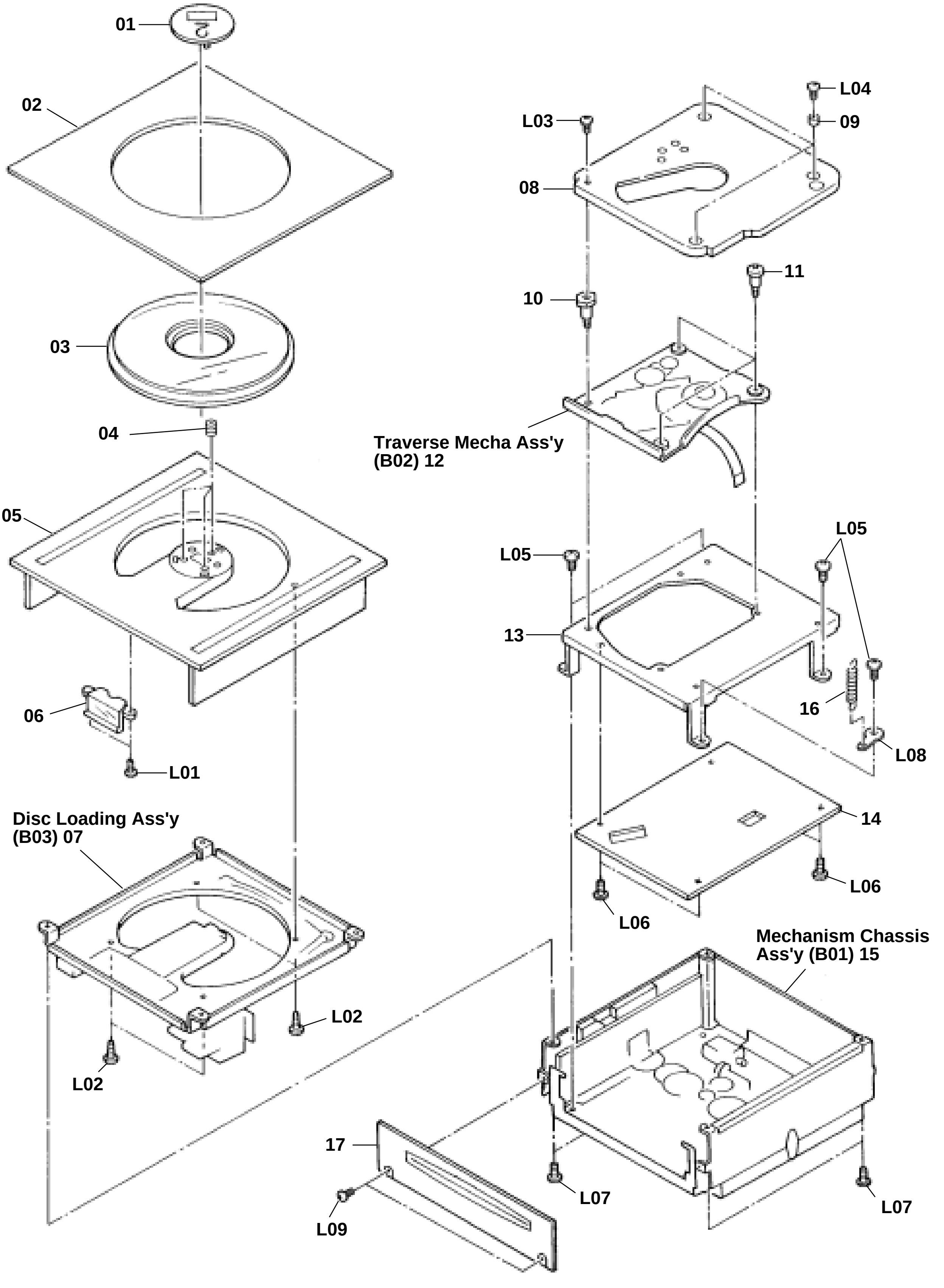


Fig. 3.3

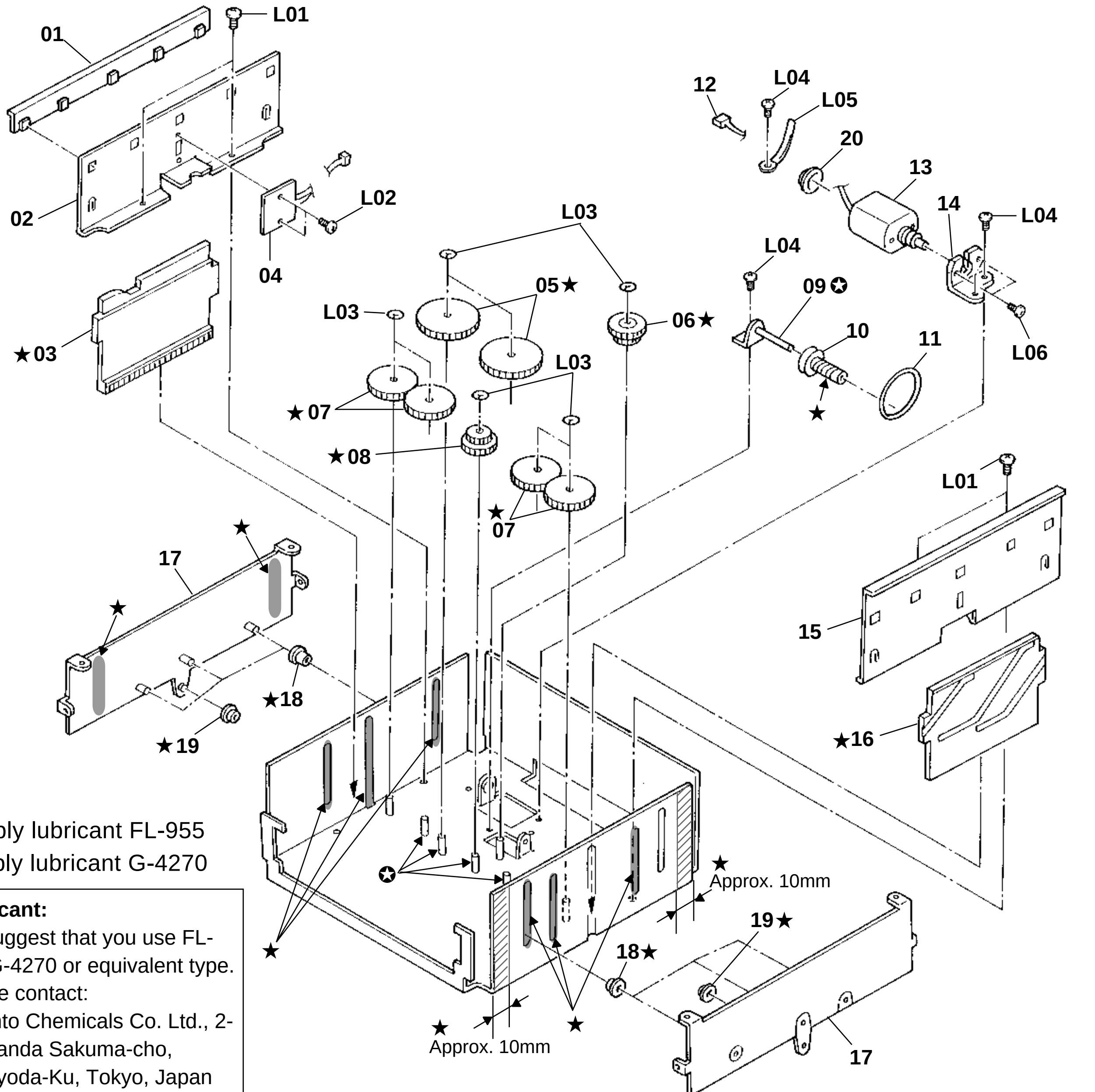
3.3. Mechanism CD Ass'y 1 (A01)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	**—**	**Mechanism CD Ass'y 1**	**2**
01	HG08576A	Door Cap Ass'y 2 **(for Unit No. 2)**	1
	HG08577A	Door Cap Ass'y 3 **(for Unit No. 3)**	1
02	0H08735C	Dress Plate Door A	1
03	0H08736C	Window Door	1
04	0J08729B	D. Cap Spring	9
05	0H08734B	Escutcheon Door	1
06	0H08812A	Illumination Lens	1
07	CA09459A	Disc Loading Ass'y	1
08	0C10450B	Traverse Cover CD	1
09	0C10575A	Sleeve 4x2.7x2.1	3
10	0C10449A	Damper Screw SD	1
11	0C10287A	Damper Screw SL	3
12	CA09504A	Traverse Mecha Ass'y	1
13	0C10448A	D Unit Base	1
14	BK10349A	CD P.C.B. Ass'y	1
15	—	Mechanism Chassis Ass'y	1
16	0C10578A	Stabi SP	1
17	HA08656B	F Panel ME CD S Ass'y	1
L01	0E04174A	PT2x5 + Binding	
L02	0E04035A	PT2.6x6 + Binding (Black)	
L03	0E03197A	M2.6x4 + Pan (Black)	
L04	0E00945A	M2.6x4 + Binding (Black)	
L05	0E03270A	M3x5 + Binding (Black)	
L06	0E00964A	M3x5 + Binding	
L07	0E03950A	M2.6x5 + Binding	
L08	0E00174A	Earth Lug B-4	
L09	0E04308A	M2x3.5 + Pan #0 Type 3	

3.3. Mechanism CD Ass'y 2 (A01)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	**—**	**Mechanism CD Ass'y 2**	**1**
01	HG08549A	Door Cap Ass'y 1 **(for Unit No. 1)**	1
02	0H08824C	Dress Plate Door B	1
03	0H08736C	Window Door	1
04	0J08729B	D. Cap Spring	9
05	0H08734B	Escutcheon Door	1
06	0H08812A	Illumination Lens	1
07	CA09459A	Disc Loading Ass'y	1
08	0C10450B	Traverse Cover CD	1
09	0C10575A	Sleeve 4x2.7x2.1	3
10	0C10449A	Damper Screw SD	1
11	0C10287A	Damper Screw SL	3
12	CA09504A	Traverse Mecha Ass'y	1
13	0C10448A	D Unit Base	1
14	BK10349A	CD P.C.B. Ass'y	1
15	—	Mechanism Chassis Ass'y	1
16	0C10578A	Stabi SP	1
17	HA08656B	F Panel ME CD S Ass'y	1
L01	0E04174A	PT2x5 + Binding	
L02	0E04035A	PT2.6x6 + Binding (Black)	
L03	0E03197A	M2.6x4 + Pan (Black)	
L04	0E00945A	M2.6x4 + Binding (Black)	
L05	0E03270A	M3x5 + Binding (Black)	
L06	0E00964A	M3x5 + Binding	
L07	0E03950A	M2.6x5 + Binding	
L08	0E00174A	Earth Lug B-4	
L09	0E04308A	M2x3.5 + Pan #0 Type 3	

3.4. Mechanism Chassis Ass'y (B01)



★: Apply lubricant FL-955

✪: Apply lubricant G-4270

Lubricant:
We suggest that you use FL-955/G-4270 or equivalent type.
Please contact:
Kanto Chemicals Co. Ltd., 2-7 Kanda Sakuma-cho, Chiyoda-Ku, Tokyo, Japan

Fig. 3.4

3.4. Mechanism Chassis Ass'y (B01)

Schematic Ref. No.	Part No.	Description	Q'ty
B01	—	**Mechanism Chassis Ass'y**	**1**
01	0C10437A	UD Cam Guide	1
02	0C10435A	Cam Guide Chassis S	1
03	0C10439C	UD Cam S	1
04	BK10424A	SEN UD P.C.B. Ass'y	1
05	0C10441A	Cam D L Gear	2
06	0C10443A	Cam D WW Guide	1
07	0C10440A	Cam Drive Gear	4
08	0C10442A	Cam D S Gear	1
09	CA09458A	WP Base S Ass'y	1
10	0C10444A	Cam D Worm Pulley	1
11	0C10446A	Belt 1.5S D18.5	1
12	0B85683A	2P Wire Ass'y UD_MOT	1
13	CA09511A	UD Motor SD S Ass'y	1
14	0C10447A	Cam Motor Holder	1
15	0C10436A	Cam Guide Chassis L	1
16	0C10438A	UD Cam	1
17	CA09472A	UD Plate S Ass'y	2
18	0C10496A	UD Cam Roller	6

Schematic Ref. No.	Part No.	Description	Q'ty
19	0C10514A	UD Cam Roller S	2
20	0C10265A	Motor Grommet SL	1
L01	0E03270A	M3x5 + Binding (Black)	
L02	0E04085A	M2x3.5 (Black)	
L03	0E03955A	Cut Washer 2.2x4.2x0.2	
L04	0E03964A	ST2.6x3 + Pan #0 Type 3	
L05	0E03700B	Coating Clip	
L06	0E03953A	M2x2 + Pan #0 Type 1 (Black)	

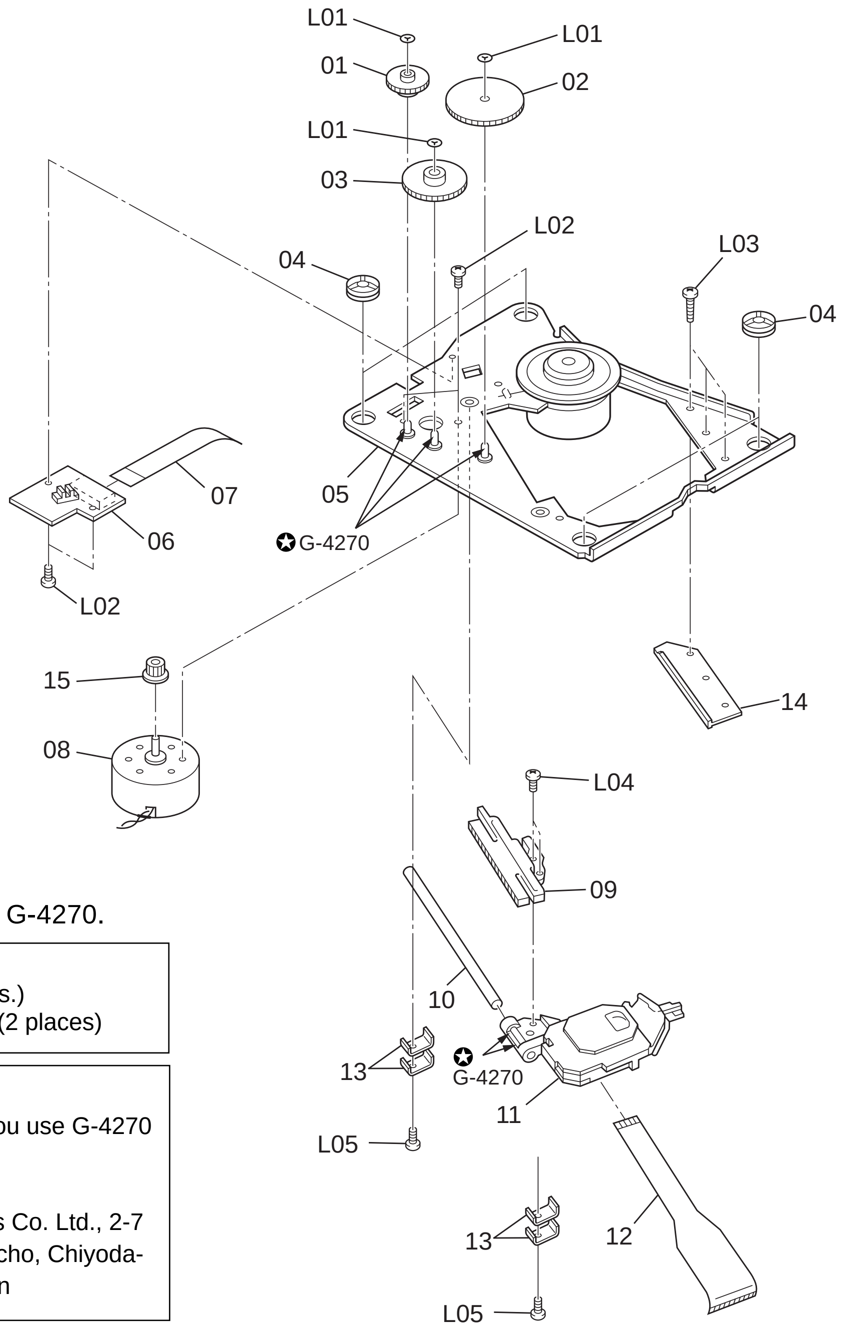
Apply FL-955:

03,05-08:	Whole surface
10:	Worm gear only
16:	Whole surface
17:	2 places (on the left)
18,19:	Whole surface
—:	Chassis (8 places)

Apply G-4270:

09:	Shaft
—:	Chassis's shafts (4 pcs.)

3.5. Traverse Mecha Ass'y (B02)



✪: Apply lubricant G-4270.

Apply G-4270:
05: Shafts (3 pcs.)
11: Shaft holes (2 places)

Lubricant:
We suggest that you use G-4270 or equivalent type.
Please contact:
Kanto Chemicals Co. Ltd., 2-7 Kanda Sakuma-cho, Chiyoda-Ku, Tokyo, Japan

Fig. 3.5

3.5. Traverse Mecha Ass'y (B02)

Schematic Ref. No.	Part No.	Description	Q'ty
B02	**CA09504A**	**Traverse Mecha Ass'y**	**1**
01	0C10139B	Second Gear	1
02	0C09923C	Power Gear	1
03	0C10140B	Third Gear	1
04	0C10279A	Damper S SL	4
05	CA09364A	Disc Motor Chassis Ass'y	1
06	BA09777A	Traverse P.C.B. Ass'y	1
07	0B84608A	8P Flexible Wire	1
08	3B90704A	Sled Motor	1
09	0C10141C	Rack CA	1
10	0C10277A	PU Guide Shaft SL	1
11	0B90741A	Pickup KSS-540A	1
12	0B61355A	Pick up Flexible P.C.B.	1
13	0C10278A	Shaft Lock Plate SL	4
14	0C10282A	PU Guide Plate H SL	1
15	0C10138B	First Gear	1
L01	0E04343B	Cut Washer 1.6x3.2x0.2 (Black)	
L02	0E03845A	M1.7x2.5 + Pan #0 Type 3 (Black)	
L03	0E00955A	BT2x4 + Binding	
L04	0E00887A	M1.7x4 + Pan	
L05	0E03947A	M2.6x3.5 + Pan (#0 Type 3)	

3.6. Disc Loading Ass'y (B03)

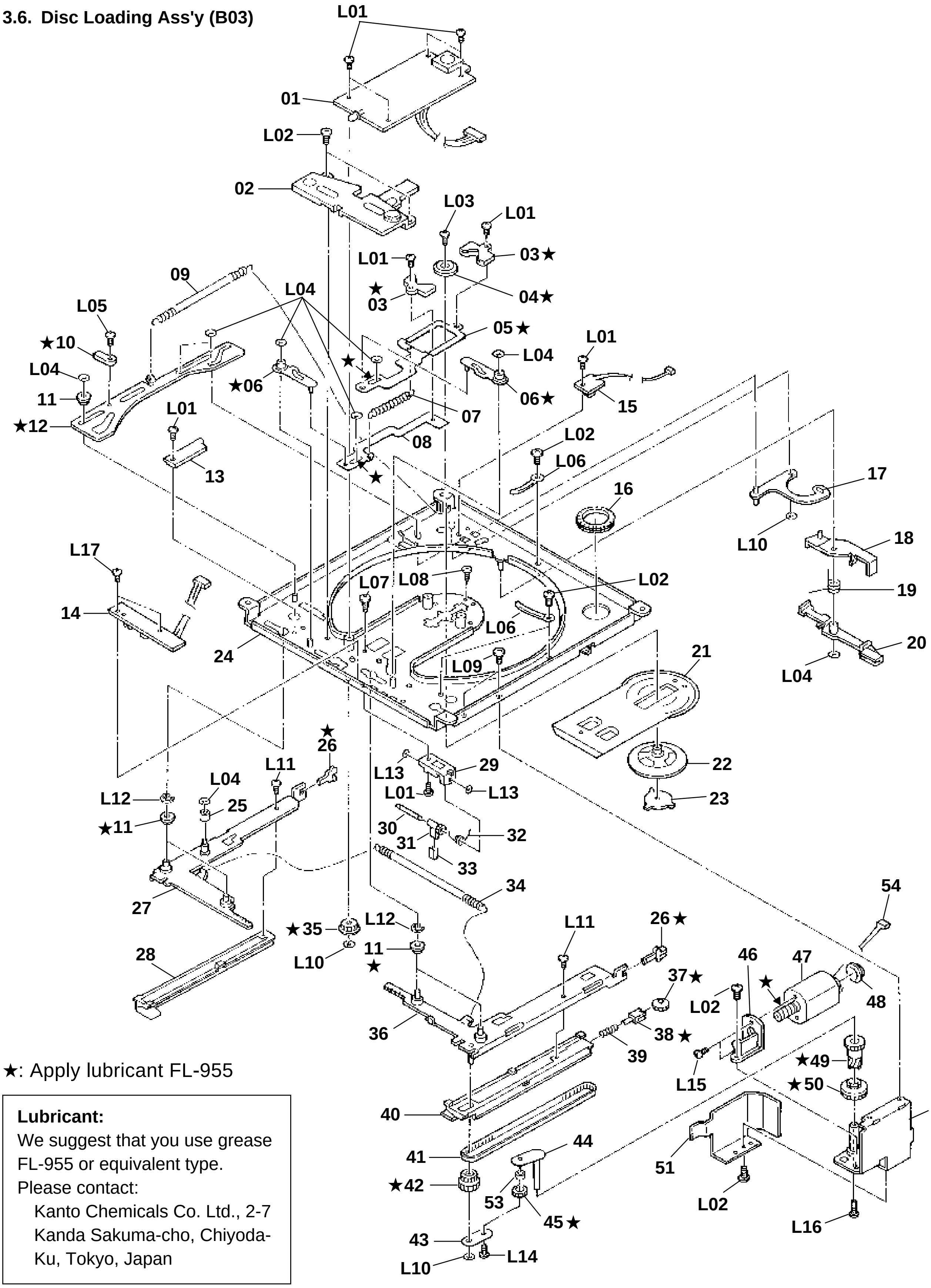


Fig. 3.6

★: Apply lubricant FL-955

> **Lubricant:**
> We suggest that you use grease FL-955 or equivalent type.
> Please contact:
> Kanto Chemicals Co. Ltd., 2-7 Kanda Sakuma-cho, Chiyoda-Ku, Tokyo, Japan

3.6. Disc Loading Ass'y (B03)

Schematic Ref. No.	Part No.	Description	Q'ty
B03	**CA09459A**	**Disc Loading Ass'y**	**1**
01	BK10421A	LED P.C.B. Ass'y	1
02	0C10518A	Link Cover	1
03	0C10510A	Clamp Holder	2
04	0C09988B	Clamp Top	1
05	0C10456A	Clamp Arm L	1
06	CA09462A	Clamp Link S Ass'y	2
07	0C10458A	Clamper RE SP SD	1
08	0C10457A	Clamp Arm S	1
09	0C10465A	LDG D Cam SP	1
10	0C10562A	LDG Cam Tip	1
11	0C10466A	LDG Guide Roller	5
12	0C10511A	D Sens Cam	1
13	0C10464A	LDG D Cam Holder	1
14	BK10422A	SEN LD1 P.C.B. Ass'y	1
15	BK10423A	SEN LD2 P.C.B. Ass'y	1
16	0C10567A	Edge Protector	1
17	CA09461A	D Sens Link S Ass'y	1
18	0C10459A	Dsens Arm Base	1
19	0C10461A	Dsens Arm SP	1
20	0C10460A	Disc Sens Arm	1
21	0C10455A	Disc Guide SD	1
22	0C09922B	Disc Cramp Base	1
23	0C09997B	Steel Ring	1
24	CA09460A	Loading Chassis SD S Ass'y	1
25	0C10561A	LDG Cam Roller	1
26	0C10215A	LP Slider SL	2
27	CA09467A	Loading Plate L SD S Ass'y	1
28	CA09468A	Disc G L SD S Ass'y	1
29	0C10491B	D Shutter Base	1
30	0C10493A	D Shutter Shaft	1
31	0C10490A	D Shutter	1
32	0C10492B	D Shutter SP	1
33	0C10255A	Shutter Arm Cushion SL	1
34	0C10252A	Loading Return Spring SL	1
35	0C10454A	LDG Center Guide SD	1
36	CA09464A	Loading Plate R SD S Ass'y	1
37	0C10191A	Idler Pulley SL	1
38	0C10192A	Pulley Fork SL	1
39	0C10193A	Pulley Spring SL	1
40	0C10476B	LDG Guide R SD	1
41	0C10477A	Timing Belt SD	1
42	0C10213A	Timing Gear SL	1
43	0C10478A	Loading Link B SD	1
44	CA09465A	Loading Link A S Ass'y	1
45	0C10479A	LDG Idle Gear SD	1
46	0C10488A	LDG Motor Holder	1
47	CA09512A	Loading Motor SD S Ass'y	1
48	0C10265A	Motor Grommet SL	1
49	0C10236A	Loading Worm Gear SL	1
50	0C10237A	Loading Sensor Ring SL	1
51	0C10563A	LDG Motor Cover	1
52	CA09470A	Loading Motor Chassis S Ass'y	1
53	0C10480A	LDG Gear Collar SD	1
54	0B85682A	2P Wire Ass'y LD_MOT	1
L01	0E04085A	M2x3.5 (Black)	
L02	0E03964A	ST2.6x3 + Pan (#0 Type 3)	
L03	0E03943A	BT1.7x5 + Pan #0 Type 3 (Black)	
L04	0E03954A	Cut Washer 1.6x3.2x0.2	
L05	0E03243A	M2x2.5 + Pan	
L06	0E03700B	Coating Clip	
L07	0E00869A	BT2.6x4 + Binding	
L08	0E03461A	BT2x2.5 + Pan (Black)	
L09	0E03970A	M2.6x3 + Pan #0 Type 3	
L10	0E03955A	Cut Washer 2.2x4.2x0.2	
L11	0E03961A	BT2x4 + Pan #0 Type 1 (Black)	
L12	0E04310A	E Ring 1.5mm	
L13	0E04119A	Washer 1.2x3x0.25	
L14	0E03969A	M1.4x3 + Pan #0 Type 3	
L15	0E03953A	M2x2 + Pan #0 Type 1	
L16	0E03845A	M1.7x2.5 + Pan #0 Type 3 (Black)	
L17	0E04075A	M2x3.5 + Pan #0 Type 1 (Black)	

Apply FL-955:

03: Whole surface
04: Whole surface
05: Around the hole
06: Whole surface
08: Around the hole
10: Whole surface
11: Whole surface (4 pcs. only)
12: Holes (5 places)
26: Whole surface
35: Whole surface
37: Whole surface
38: Whole surface
42: Whole surface
45: Whole surface
47: Worm gear only
49: Whole surface
50: Whole surface

4. ELECTRICAL PARTS LIST

NOTES: 1. Abbreviations
TR – Transistor, SID – Silicon Diode, ZD – Zener Diode, Varicap – Variable Capacitance Diode
RK – Carbon Resistor, RM – Metal Film Resistor, RF – Fail Safe Type Resistor,
RC – Cement Resistor, CE – Electrolytic Capacitor, CML – Mylar Capacitor,
CC – Ceramic Capacitor, CPP – PP Capacitor, CMM – Metalized Mylar Capacitor,
CSP – Polystyrene Capacitor, C – Mica Capacitor, CT – Tantalum Capacitor
2. Description of capacitor: 10 16V = 10µ 16V
3. Parts marked with * show chip parts.

4.1. Main P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10318A	**Main P.C.B. Ass'y DM (JPN)**
	BK10319A	**Main P.C.B. Ass'y UL (USA, CAN, DA, TW)**
	BK10320A	**Main P.C.B. Ass'y EP (UK, AUS, EP, CH, HK, KR)**
	BK10321A	**Main P.C.B. Ass'y OTR (OTR)**
U102	0B10879A	IC NJM2114D
U103	0B11240A	IC NJM78L05A
U151	0B11240A	IC NJM78L05A
U152	0B17033A	IC NJM78M12FA
U153	0B06124A	IC NJM4558D
U201,202	0B10812A	IC LC78211
U203	0B06124A	IC NJM4558D
U204	0B10814A	IC LC78213
U205,206	0B06124A	IC NJM4558D
U207	0B12879A	IC TC9459N
U208	0B12878A	IC TC9184AP
U209	0B11713A	IC UPC4570C
U210	0B17034A	IC NJM78M15FA
U211	0B17047A	IC NJM79M15FA
U212	0B06124A	IC NJM4558D
U306	0B06370A	IC NJM4556D
U307	0B12811A	Toslink TOTX178A
U310,311	0B06124A	IC NJM4558D
U312,313	0B06124A	IC NJM4558D
U501	0B11609A	IC NJM78M05A
U502	0B12863A	IC UPD78F4225GC-8*
U503	0B12841A	IC LC72722PM* (UK, AUS, EP, CH, HK, KR)
U504,505	0B12864A	IC PQ30RV2
U506	0B12864A	IC PQ30RV2
U507	0B17026A	IC NJM78L08A
U631	0B11602A	IC TC74HC02AF
U632	0B13319A	IC TC74HC4538AF*
U633	0B10824A	IC Photocoupler PC918X
U803	0B12883A	IC LC89055W*
U807	0B12783A	IC AD1855*
ICP501	0B11639A	IC Protector ICP-N25 1.0A
Q201L,R	0B14186A	TR 2SC4213 B*
Q301L,R	0B14186A	TR 2SC4213 B*
Q302	0B14186A	TR 2SC4213 B*
Q303L,R	0B14186A	TR 2SC4213 B*
Q304L,R	0B14186A	TR 2SC4213 B*
Q305	0B14186A	TR 2SC4213 B*
Q501	0B14002A	TR DTA114EK*
Q502	0B10357A	TR DTB113ES
Q503	0B14167A	TR 2SC2412K*
Q504	0B14013A	TR DTC144EK*
Q505	0B14002A	TR DTA114EK*
Q506	0B14004A	TR DTA144EK*
Q507	0B14167A	TR 2SC2412K*
Q508	0B14013A	TR DTC144EK*
Q509	0B14002A	TR DTA114EK*
Q518,519	0B10882A	TR DTC114TKA*
Q520	0B14013A	TR DTC144EK*
Q521	0B14013A	TR DTC144EK* (UK, AUS, EP, CH, HK, KR)
Q522	0B14013A	TR DTC144EK*
Q523,524	0B10882A	TR DTC114TKA*
Q525	0B14013A	TR DTC144EK*
Q526	0B14011A	TR DTC114EK*
Q601	0B14002A	TR DTA114EK*
Q602	0B14013A	TR DTC144EK*
Q603	0B14004A	TR DTA144EK*
Q604	0B14002A	TR DTA114EK*
Q605	0B14013A	TR DTC144EK*
Q606	0B14167A	TR 2SC2412K*
Q607,608	0B10882A	TR DTC114TKA*
Q609	0B14002A	TR DTA114EK*
Q610	0B14011A	TR DTC114EK*
Q611,612	0B14013A	TR DTC144EK*
Q631	0B14167A	TR 2SC2412K*
ZD501	0B12147A	ZD RD5.1V JS B2
D201,202	0B12249A	SID 1SS133
D203	0B12249A	SID 1SS133
D501,502	0B12249A	SID 1SS133
D503	0B12725A	SID 1SR139-100
D505,506	0B12249A	SID 1SS133
D507,508	0B12249A	SID 1SS133
D509,510	0B12249A	SID 1SS133
D601,602	0B12249A	SID 1SS133
D603	0B12249A	SID 1SS133
D631,632	0B12249A	SID 1SS133
D633	0B12249A	SID 1SS133
L151,152	0B51183A	Inductor 100uH
L501	0B51369A	Inductor 10mH
L801,802	0B51392A	Inductor 47uH
L803	0B51392A	Inductor 47uH
L805	0B51392A	Inductor 47uH
L806	0B51159A	Inductor 1uH
X501	0B91047A	X'tal 8.38MHz
X502	0B90889A	X'tal 4.3320MHz (UK, AUS, EP, CH, HK, KR)
X801	0B90902A	X'tal 12.288MHZ
R250,251	0B24365R	RF 10 1/4W J
R501	0B24365R	RF 10 1/4W J
R511	0B25612A	RK 0 1/10W J* (USA, CAN, DA, TW)
R513	0B25563A	RK 10K 1/10W J* (OTR)
R514	0B25612A	RK 0 1/10W J* (JPN)
R552	0B24498R	RF 120 2W
R559	0B25612A	RK 0 1/10W J* (JPN, OTR, USA, CAN, DA, TW)
R573	0B25539A	RK 1K 1/10W J* (UK, AUS, EP, CH, HK, KR)
R576	0B25539A	RK 1K 1/10W J* (UK, AUS, EP, CH, HK, KR)
R577	0B25539A	RK 1K 1/10W J* (UK, AUS, EP, CH, HK, KR)
R676	0B09995A	RF 0.22 2W
C353L	0B43387A	CPP 120P 100V J (UK, AUS, EP, CH, HK, KR)
C353R	0B43387A	CPP 120P 100V J (UK, AUS, EP, CH, HK, KR)
C506	0B42247A	CE 0.1 5.5V F
C519	0B40871A	CE 10 16V (UK, AUS, EP, CH, HK, KR)
C520	0B43092A	CC 0.1 25V Z* (UK, AUS, EP, CH, HK, KR)
C521	0B43206A	CC 560P 50V J* (UK, AUS, EP, CH, HK, KR)
C522	0B43061A	CC 22P 50V J* (UK, AUS, EP, CH, HK, KR)
C523	0B43061A	CC 22P 50V J* (UK, AUS, EP, CH, HK, KR)
C524	0B43092A	CC 0.1 25V Z* (UK, AUS, EP, CH, HK, KR)
CP151	0B84330A	F Connector 15P 5597-15CPB
CP508	0B81459A	2P T-Post (UK, AUS, EP, CH, HK, KR)
MJ201	0B80774A	Mini Jack H
MJ301	0B80774A	Mini Jack H
MJ501	0B80774A	Mini Jack H
PJ301	0B85629A	2P Pin Jack AU W R
PJ302	0B85450A	6P Pin Jack AU W R
PJ303	0B85910A	1P Pin Jack AU BLK
PJ304	0B85629A	2P Pin Jack AU W R
	0B90949A	Tuner Pack TFCE1 DM (JPN) (1)
	0B90950A	Tuner Pack TFCE1 UL (USA, CAN, DA, TW) (1)
	0B90951A	Tuner Pack TFCE1 EP (UK, OTR, AUS, EP, CH, HK, KR) (1)
	0B80668A	DIN 13P Socket (1)

4.2. Front P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10352A	**Front P.C.B. Ass'y**
U701	0B12803A	IC LC7584E
U702	0B10961A	IC NJU3713G*
U703	0B13257A	IR SENSOR 38K
Q701	0B10068A	TR DTC114ES
Q702	0B10015A	TR 2SA1020 (O,Y)
D701	0B12745A	SID MA719

Schematic Ref. No.	Part No.	Description
LCD701	0B90913B	LCD DLC-A1622P
LED701	0B12806A	LED Green
LED702	0B12806A	LED Green
LED703	0B12806A	LED Green
LED704	0B12806A	LED Green
LED705	0B12806A	LED Green
LED706	0B12806A	LED Green
LED707	0B12806A	LED Green
LED708	0B12865A	LED WHITE
LED709	0B12865A	LED WHITE
LED710	0B12865A	LED WHITE
LED712	0B10825A	LED Amber GL3HS43
HJ301	0B85811A	Mini Jack SW1
SW901,902	0B70295A	Tact Switch SKQBLB
SW903,904	0B70295A	Tact Switch SKQBLB
SW905	0B70282A	Tact Switch
SW908,909	0B70295A	Tact Switch SKQBLB
SW910,911	0B70295A	Tact Switch SKQBLB
SW912,913	0B70295A	Tact Switch SKQBLB

4.3. CD P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10349A	**CD P.C.B. Ass'y**
U101	0B10691A	IC CXA2521Q*
U102	0B10948A	IC CXD2587Q*
U103	0B10953A	IC TC4W53FU*
U104	0B12955A	IC BA5983FP*
U105,106	0B10719A	IC TA8409F*
U180	0B10645A	IC NJM2100M*
U501	0B12988A	IC UPD78018FGC*
U502	0B11928A	IC TC4049BF
U601	0B10832A	IC TC74HCU04AF*
Q101	0B10731A	TR 2SB1132*
Q102	0B14013A	TR DTC144EK*
Q103	0B10652A	TR DTC144TK*
Q106	0B12847A	TR 2SK2158*
Q403	0B10901A	TR 2SD2153TL*
Q404	0B10930A	TR 2SD1758F*
Q411,412	0B14167A	TR 2SC2412K*
Q413	0B14167A	TR 2SC2412K*
Q414	0B10930A	TR 2SD1758F*
Q501,502	0B14013A	TR DTC144EK*
Q503,504	0B12847A	TR 2SK2158*
Q505	0B12847A	TR 2SK2158*
ZD401	0B12150A	ZD RD5.6V JS B2
ZD403	0B12153A	ZD RD6.2V JS B2
ZD404,405	0B12150A	ZD RD5.6V JS B2
D101,102	0B10540A	SID MA152WA*
D404	0B10540A	SID MA152WA*
D406	0B10540A	SID MA152WA*
L101	0B51300A	Inductor 10uH
L102,103	0B50287A	Coil 120uH*
L104	0B51138A	Inductor 1mH
L105	0B51183A	Inductor 100uH
L503	0B50287A	Coil 120uH*
L601	0B50287A	Coil 120uH*
X101	0B90672A	X'tal 16.9344MHz
X501	0B91047A	X'tal 8.38MHz
C411	0B42247A	CE 0.1 5.5V F
CP101	0B80896A	16P F Connector*
CP102	0B85680A	8P F Connector*

4.4. LED P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10421A	**LED P.C.B. Ass'y**
LED1	0B12900A	LED BLUE
LED2	0B12900A	LED BLUE
LED3	0B13141A	LED GREEN
SW1	0B70302A	Tact Switch

4.5. SEN LD1 P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10422A	**SEN LD1 P.C.B. Ass'y**
PC1,2	0B10737A	IC Photointerrupter

4.6. SEN LD2 P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10423A	**SEN LD2 P.C.B. Ass'y**
PC3	0B10737A	IC Photointerrupter

4.7. SEN UD P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10424A	**SEN UD P.C.B. Ass'y**
PC4,5	0B10737A	IC Photointerrupter

5. IC BLOCK DIAGRAMS

• System Controller (U502 μPD78F4225GC-8)

Pin No.	Signal Name	I/O	Function	Active	Standby
1	P15	—	Grounded.		
2	$\overline{\text{MASTER}}$	I	Remote controller's Main/Remote detect signal.	L	—
3	H.PIN	I	Headphone connection detect signal.	H	—
4	AVss	—	GND.		
5	$\overline{\text{INH1}}$	O	LCD/LED display inhibit signal.	L	L
6	LCE1	O	Chip enable signal to the LCD driver.	H	L
7	AVref1	—	Reference voltage.		
8	RDI	I	Serial data input from the PLL and RDS ICs.	L/H	—
9	RDO	O	Serial data output to the PLL, RDS, LCD, VOL, LED and DIR ICs.	L/H	L
10	RCK	O	Serial clock output to the PLL, RDS, LCD, VOL, LED and DIR ICs.	L/H	L
11	NC	—	Not used.		
12	NC	—	Not used.		
13	NC	—	Not used.		
14	DIFCE	O	Strobe output to the DIR IC.	H	L
15	DIFRES	O	Reset output to the DIR IC.	H	L
16	CD-SI	I	Serial data input from the CD Mechanism. (Serial data input for flash ROM writing)	L/H	—
17	CD-SO	O	Serial data output to the CD Mechanism. (Serial data output for flash ROM writing)	L/H	L
18	CD—SCK	I	Serial clock input from the CD Mechanism. (Serial clock input for flash ROM writing)	L/H	L
19	CD3RES	O	Reset signal to the Mechanism CD Ass'y (No. 3).	H	L
20	CD2RES	O	Reset output to the Mechanism CD Ass'y (No. 2).	H	L
21	CD1RES	O	Reset output to the Mechanism CD Ass'y (No. 1).	H	L
22	CD3CE	O	Chip enable output to the Mechanism CD Ass'y (No. 3).	H	L
23	CD2CE	O	Chip enable output to the Mechanism CD Ass'y (No. 2).	H	L
24	CD1CE	O	Chip enable output to the Mechanism CD Ass'y (No. 1).	H	L
25	CD3EJC	I	Eject key input from the Mechanism CD Ass'y (No. 3).	L	—
26	CD2EJC	I	Eject key input from the Mechanism CD Ass'y (No. 2).	L	—
27	CD1EJC	I	Eject key input from the Mechanism CD Ass'y (No. 1).	L	—
28	NC	—	Not used.		
29	NC	—	Not used.		
30	$\overline{\text{LEDSTB}}$	O	Strobe signal to the LED IC.	L	L
31	NC	—	Not used.		
32	L.STBY	O	Standby LED ON/OFF control signal.	L	L
33	Vss1	—	GND.		
34	NC	—	Not used.		
35	NC	—	Not used.		
36	ST-VOL	O	Strobe output to the Volume IC.	H	L
37	ST-TONE	O	Strobe output to the Tone IC.	H	L
38	ST-AN	O	Strobe output to the audio source switching and Rec-out switching ICs.	H	L
39	A-EN	O	Serial signal transmission permit output to the VOL, TONE, AN ICs.	H	L

• System Controller-Continued (U502 µPD78F4225GC-8)

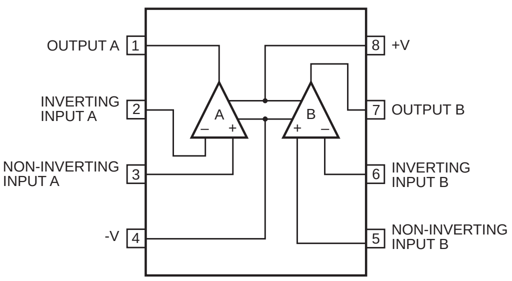
Pin No.	Signal Name	I/O	Function	Active	Standby
40	NC	—	Not used.		
41	ENCDMU-M	O	Main room muting permit output signal from the CD.	H	L
42	ENCDMU-R	O	Remote room muting permit output signal from the CD.	H	L
43	$\overline{\text{MUTE-M}}$	O	Main room muting output.	L	L
44	$\overline{\text{MUTE-R}}$	O	Remote room muting output.	L	L
45	$\overline{\text{MUTE-PH}}$	O	Headphone muting output.	L	L
46	NC	—	Not used.		
47	NC	—	Not used.		
48	P-ON	O	Power ON control output.	H	L
49	REM	I	Remote sensor input.	L/H	—
50	NC	—	Not used.		
51	NC	—	Not used.		
52	TCE	O	Chip enable signal to the PLL IC.	H	L
53	RDSCE	O	Chip enable signal to the RDS IC.	H	L
54	T-EN	O	Communication permit output between the PLL IC.	H	L
55	NC	—	Not used.		
56	$\overline{\text{SD}}$	I	SD input from the PLL IC.	L	—
57	$\overline{\text{ST}}$	I	Stereo input from the PLL IC.	L	—
58	SYNC	I	RDS sync input.	L	—
59	RDSID	I	RDS ID input.	L	—
60	$\overline{\text{RESET}}$	I	Reset input.	L	—
61	NC	—	Not used.		
62	P-OFF	I	Power OFF detect signal.	L	—
63	PWR-SW	I	AMP power switching control input.	L	—
64	NC	—	Not used.		
65	NC	—	Not used.		
66	$\overline{\text{AD-PWR}}$	O	AD Power ON output.	L	H
67	Vss0	—	GND.		
68	Vdd1	—	+5V.		
69	X2	—	8.38MHz X'tal is connected.		
70	X1	—	8.38MHz X'tal is connected.		
71	TEST/Vpp	—	(For testing)		
72	XT2	—	Not used.		
73	XT1	—	Grounded.		
74	Vdd0	—	+5V.		
75	Avdd	—	+5V.		
76	AREA	I	Area selection input.	—	—
77	MODEL	I	Model selection input.	—	—
78	KI1	I	Key input 1 signal.	—	—
79	KI0	I	Key input 2 signal.	—	—
80	SMETER	I	S-meter input signal from the PLL IC.	—	—

• Mechanism Controller (U501 μPD78018FGC)

Pin No.	Signal Name	I/O	Function	Active	Standby
1	LSI DATA	O	DSP command data output.	H/L	L
2	LSI CLK	O	DSP command clock output.	H/L	L
3	LSI XLT	O	DSP command latch pulse output.	L	L
4	SCLK	O	DSP servo parameter readout clock.	H/L	L
5	CDRST	O	DSP reset output.	L	L
6	EN CLK	O	DSP clock ON/OFF output.	H	L
7	IR	O	Interruption countermeasure circuit ON/OFF control output.	L	L
8	LD ON	O	Laser ON/OFF control output.	L	L
9	VSS	—	GND.		
10	P40	—	(For testing, etc.)		
11	P41	—	(For testing, etc.)		
12	ML	O	Latch output to the DAC IC.	H	L
13	MC	O	Serial clock output the DAC IC.	H/L	L
14	MD	O	Serial data output to the DAC IC.	H/L	L
15	$\overline{\text{DACRST}}$	O	DAC reset output.	L	L
16	MVCONT	O	Loading speed setting output. (H=7V, L=5V)	H	L
17	P47	—	Not used.		
18	DISCIN	I	Mechanism loading sensor input.	—	—
19	P51	—	Not used.		
20	UD	I	Mechanism Up/Down sensor input.	—	—
21	HOME	I	Mechanism Up/Down sensor input.	—	—
22	LDLOAD	O	Mechanism loading motor drive output.	H	L
23	LDEJECT	O	Mechanism loading motor drive output.	H	L
24	VSS	—	GND.		
25	UDUP	O	Mechanism Up/Down motor drive output.	H	L
26	UDDOWN	O	Mechanism Up/Down motor drive output.	H	L
27	P60	—	Not used.		
28	P61	—	Not used.		
29	P62	—	Not used.		
30	P63	—	Not used.		
31	L EJ	O	Eject LED ON/OFF control output.	H	L
32	MUTE	O	Audio mute output.	H	H
33	L-BLUE	O	Blue illumination ON output.	H	L
34	L-GREEN	O	Green illumination ON output.	H	L
35	$\overline{\text{RESET}}$	I	Reset input.		
36	P00	—	Grounded.		
37	SHUTTER	I	Mechanism loading sensor input.	—	—
38	LOAD	I	Mechanism loading sensor input.	—	—
39	SCOR	I	DSP SCOR signal input.	—	—
40	VDD	—	+5V.		
41	X2	—	8.388608 MHz clock.		
42	X1	—	8.388608 MHz clock.		
43	IC	—	Grounded.		
44	XT2	—	Not used.		
45	P04	I	Supplied with +5V.		

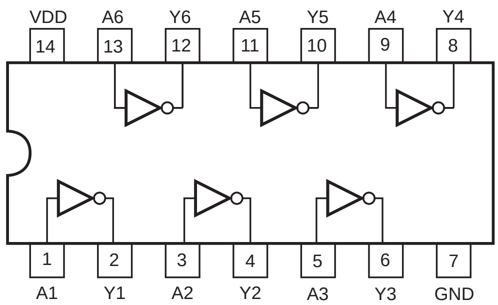
• Mechanism Controller-Continued (U501 µPD78018FGC)

Pin No.	Signal Name	I/O	Function	Active	Standby
46	AVss	—	GND.		
47	P10	—	(For testing, etc.)		
48	P11	—	(For testing, etc.)		
49	P12	—	Not used.		
50	BSENS	I	Battery voltage sensing input.	—	H
51	ASENS	I	ACC voltage sensing input.	—	H
52	LSISENS	I	DSP sensing input.	—	—
53	FOK	I	FOCUS OK signal input.	—	—
54	GFS	I	GFS OK signal input.	—	—
55	AVDD	—	+5V.		
56	AVREF	—	Reference voltage.		
57	DATAIN	I	Serial data input from the system.	—	—
58	DATAOUT	O	Serial data output to the system.	H/L	L
59	CLK IN	I	Serial clock input from the system.	—	—
60	CE	I/O	Communication line between the system. (CE: IN ACK: OUT)	H	IN
61	P24	—	Not used.		
62	SQSO	IN	DSP SubQ data input.	—	—
63	P26	—	Not used.		
64	SQCK	O	DSP SQSO readout clock.	H/L	L



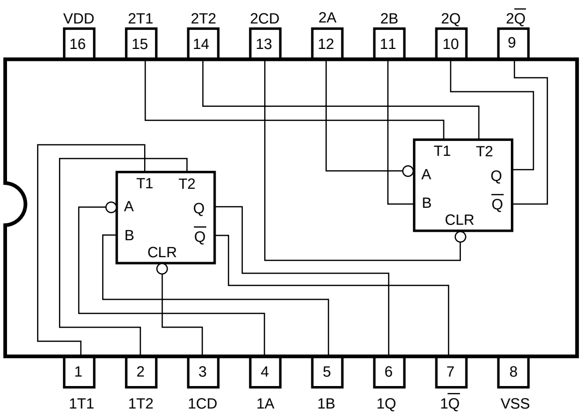
(TOP VIEW)

Operational Amp. NJM2100, NJM2114, NJM4556, NJM4558, µPC4570



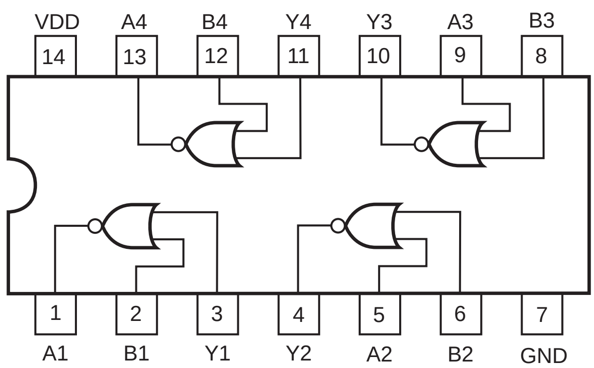
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Inverter TC74HCU04AF/TC4049BF (U502, U601)



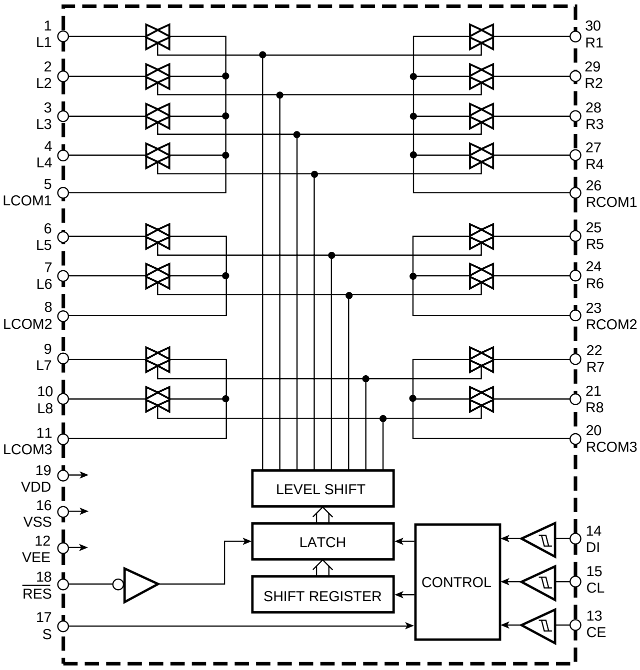
(TOP VIEW)

One shot Multi-vibrator TC74HC4538AF (U632)

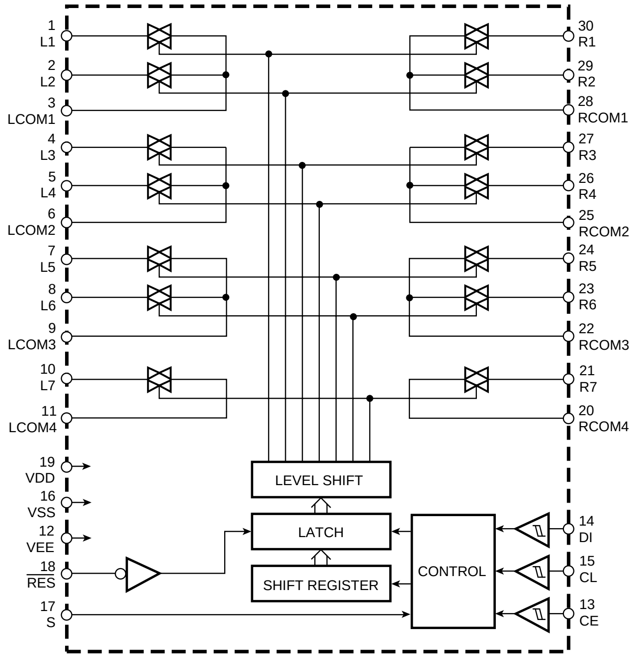


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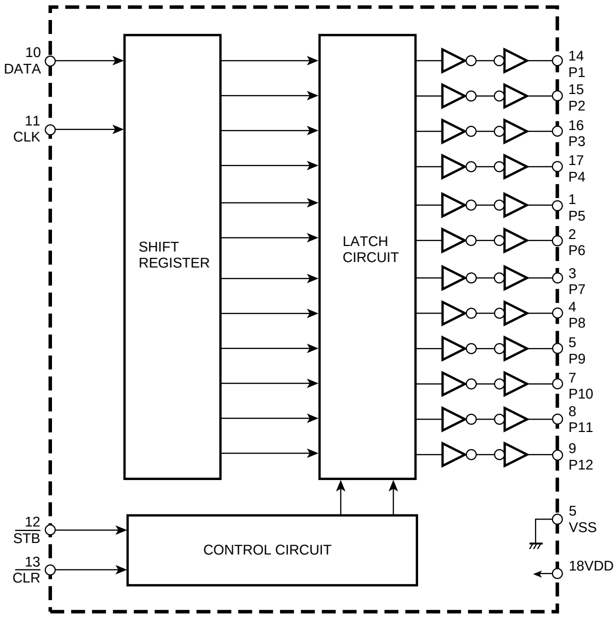
NOR Gate IC TC74HC02AF (U631)



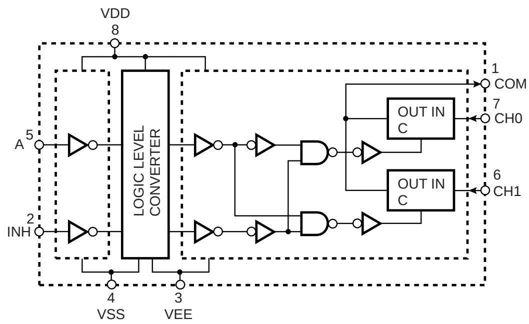
Function Switch LC78211 (U201, 202)



Function Switch LC78213 (U204)



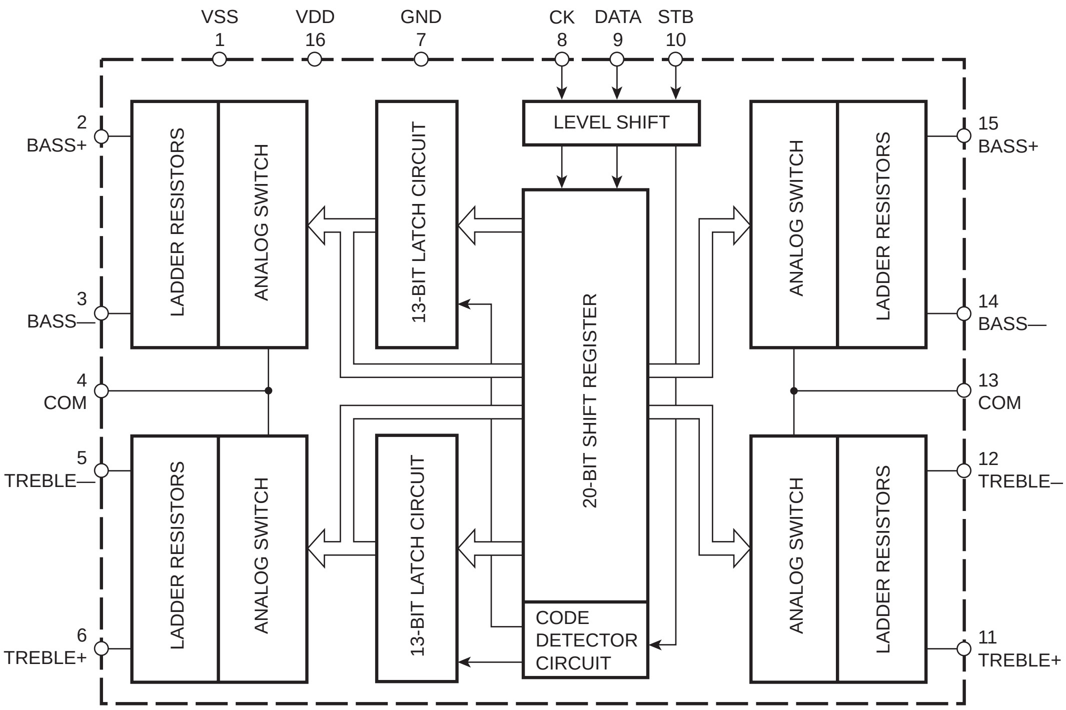
12-Bit Serial-to-Parallel Converter NJU3713G (U702)



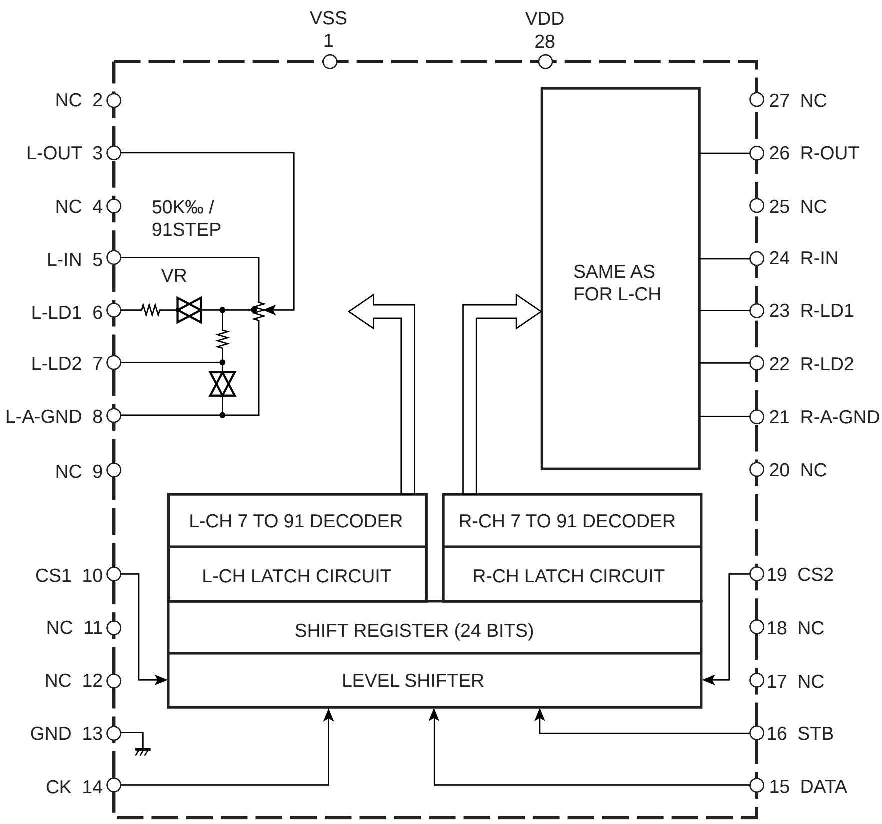
INH	A	COM
L	L	CH0
L	H	CH1
H	*	NONE

*: Don't Care

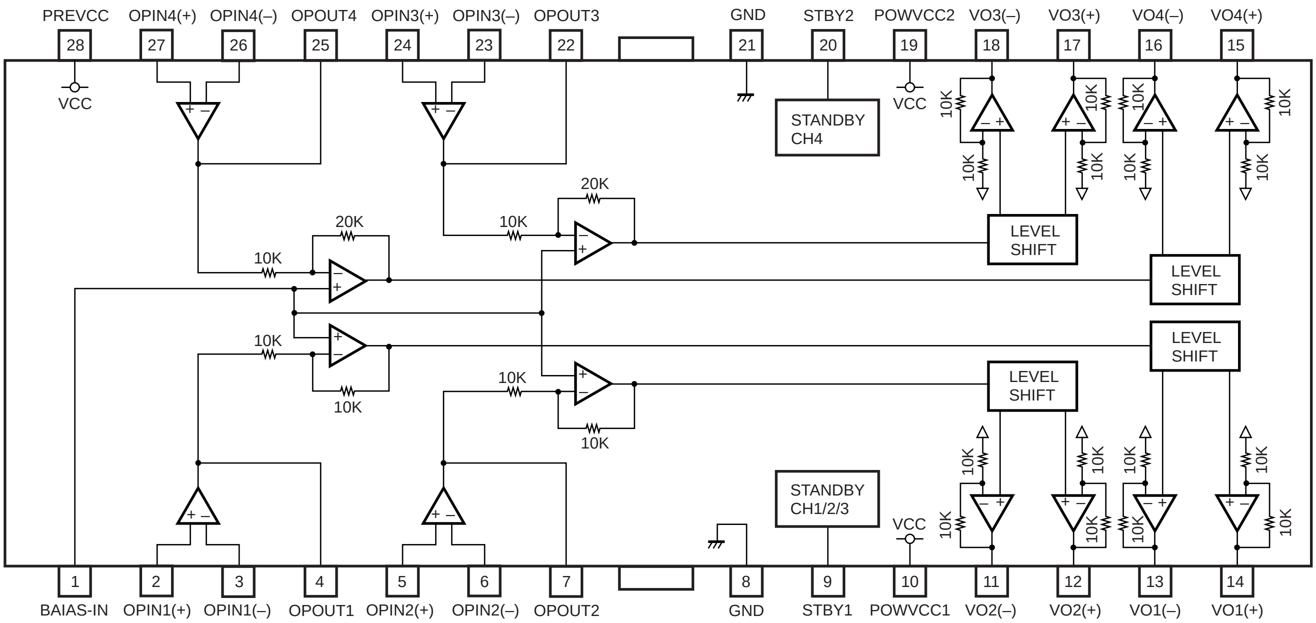
Motor Driver TC4W53FU (U103)



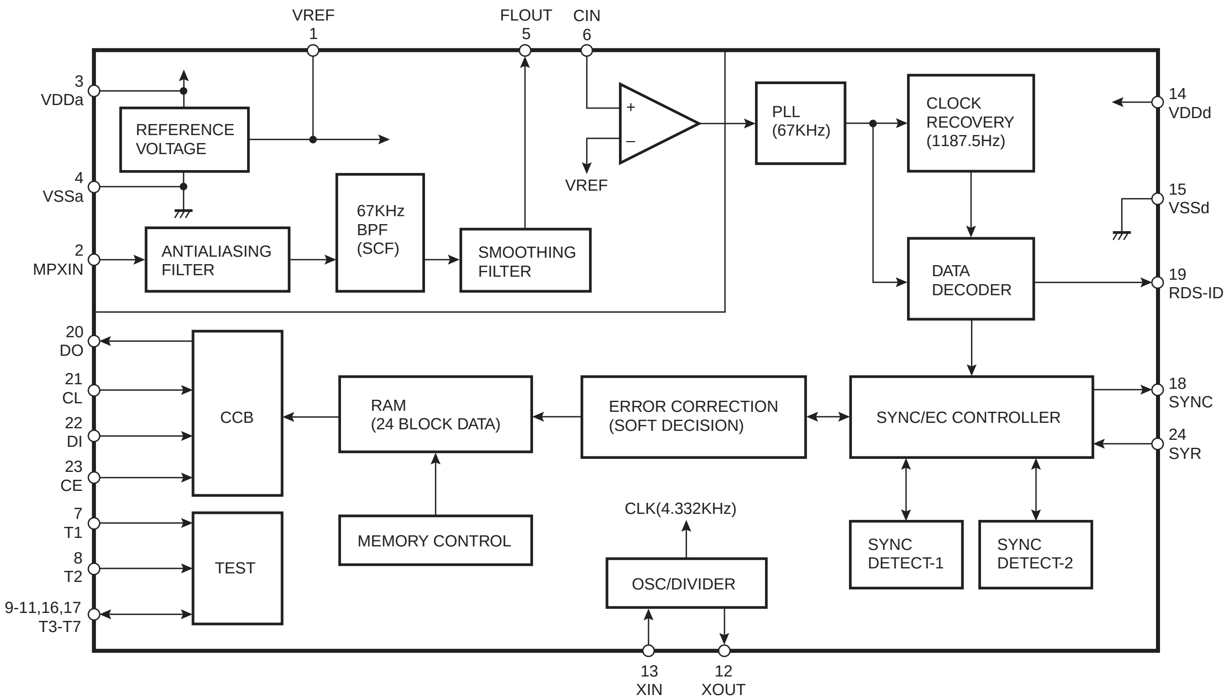
Electronic Tone Controller TC9184AP (U208)



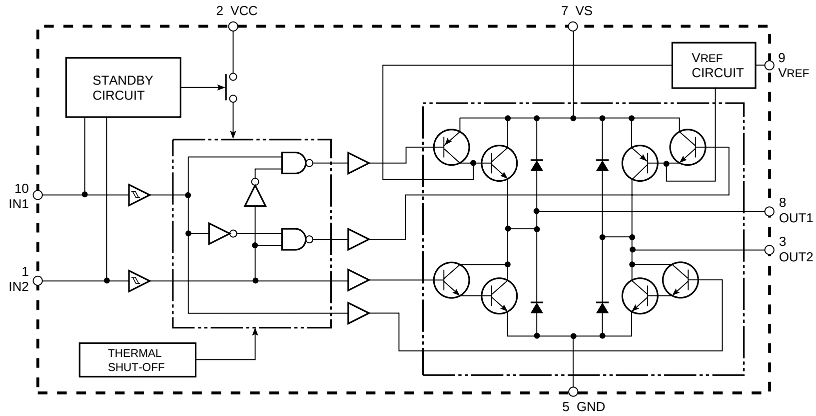
Electronic Volume Controller TC9459N (U207)



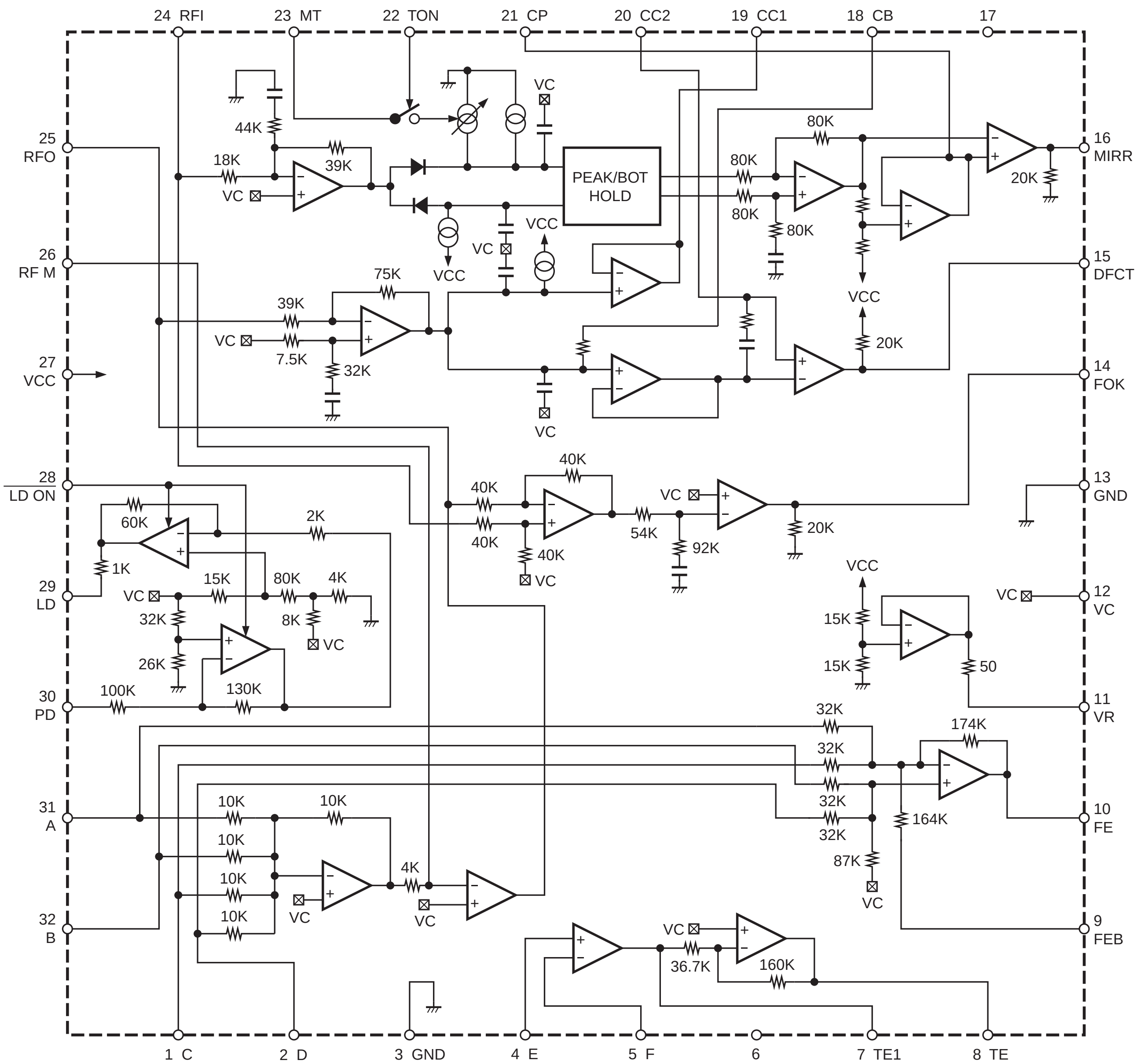
Driver BA5983FP (U104)



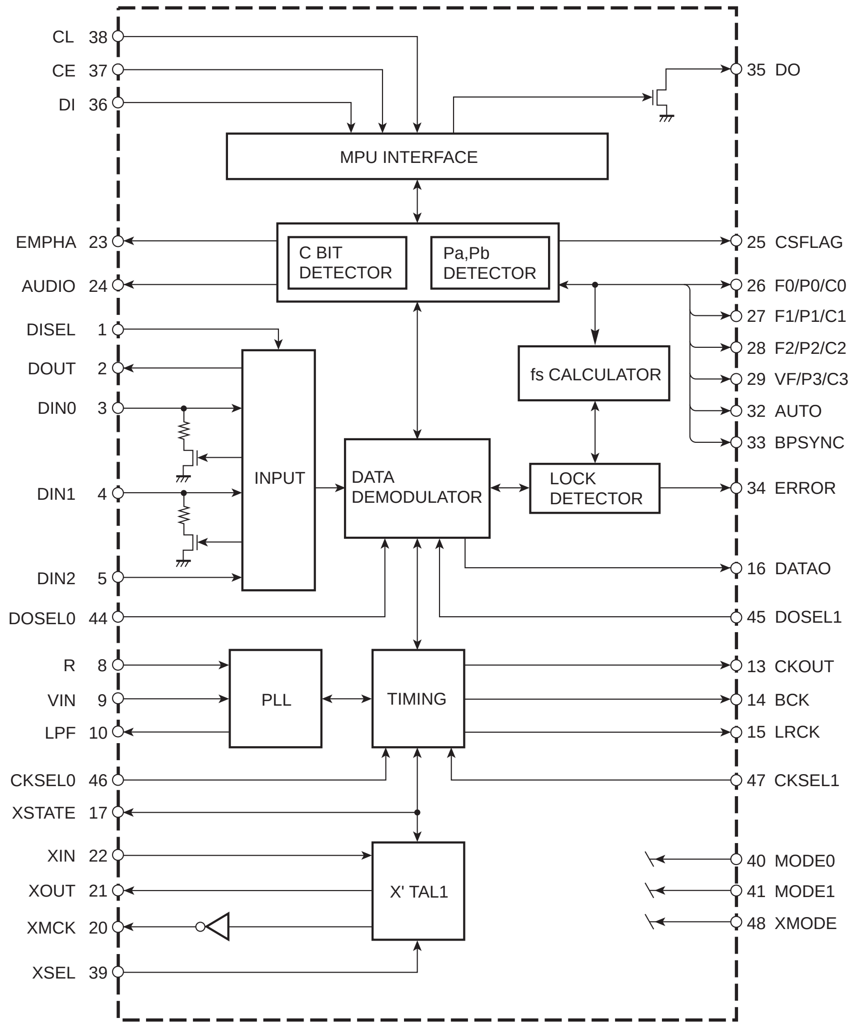
RDS Decoder LC72722PM (U503)



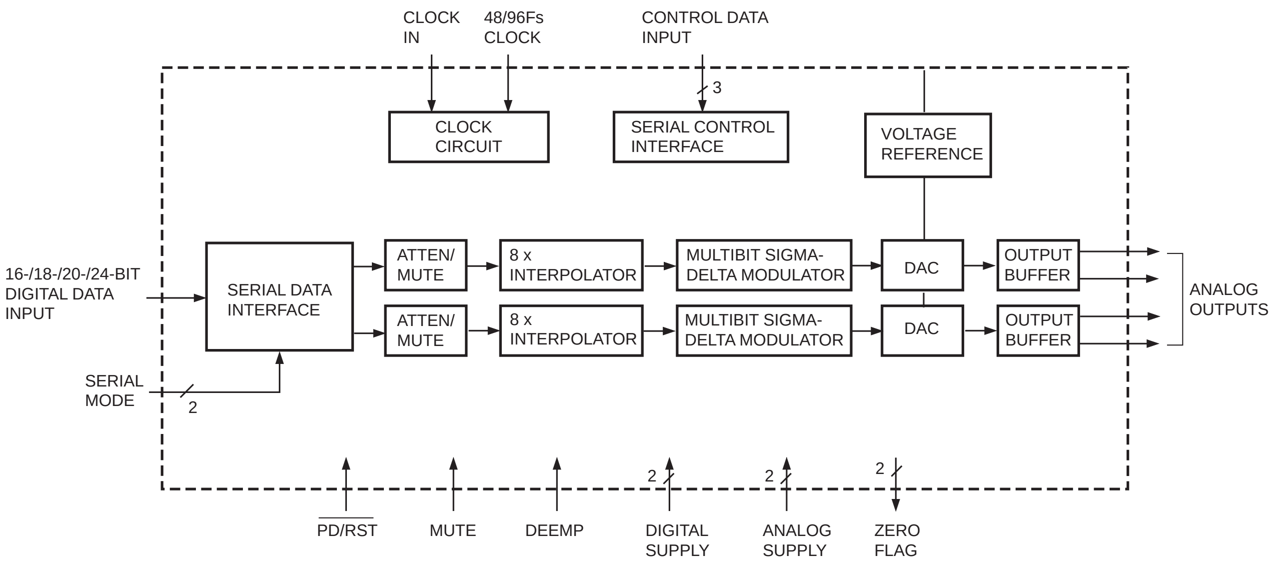
Motor Driver TA8409F (U105, 106)



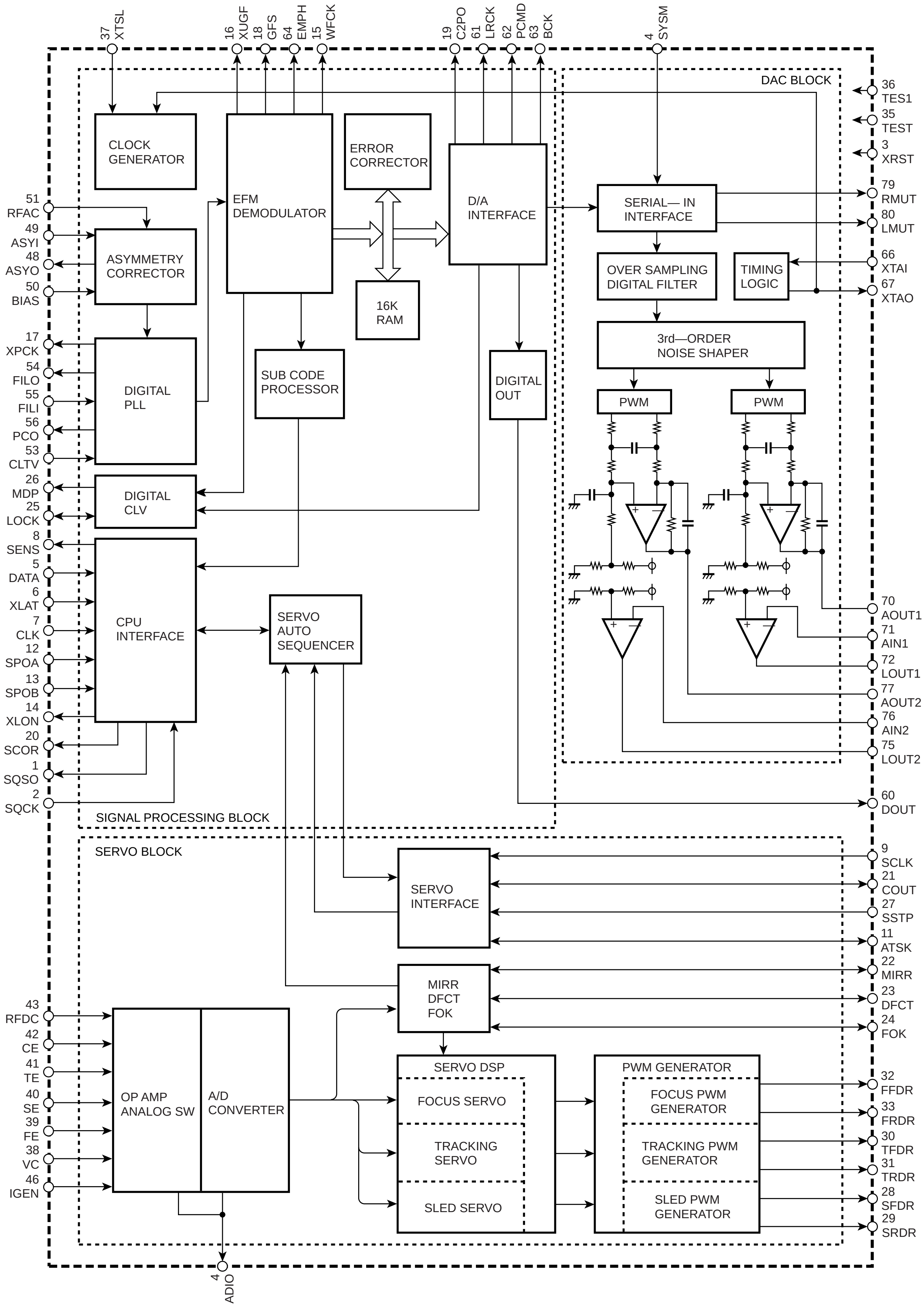
RF Amp. CXA2521Q (U101)



Digital Audio Interface Receiver LC89055W (U803)



Digital-to-Analog Converter AD1855 (U807)



DSP IC CXD2587Q (U102)

6. BLOCK DIAGRAM

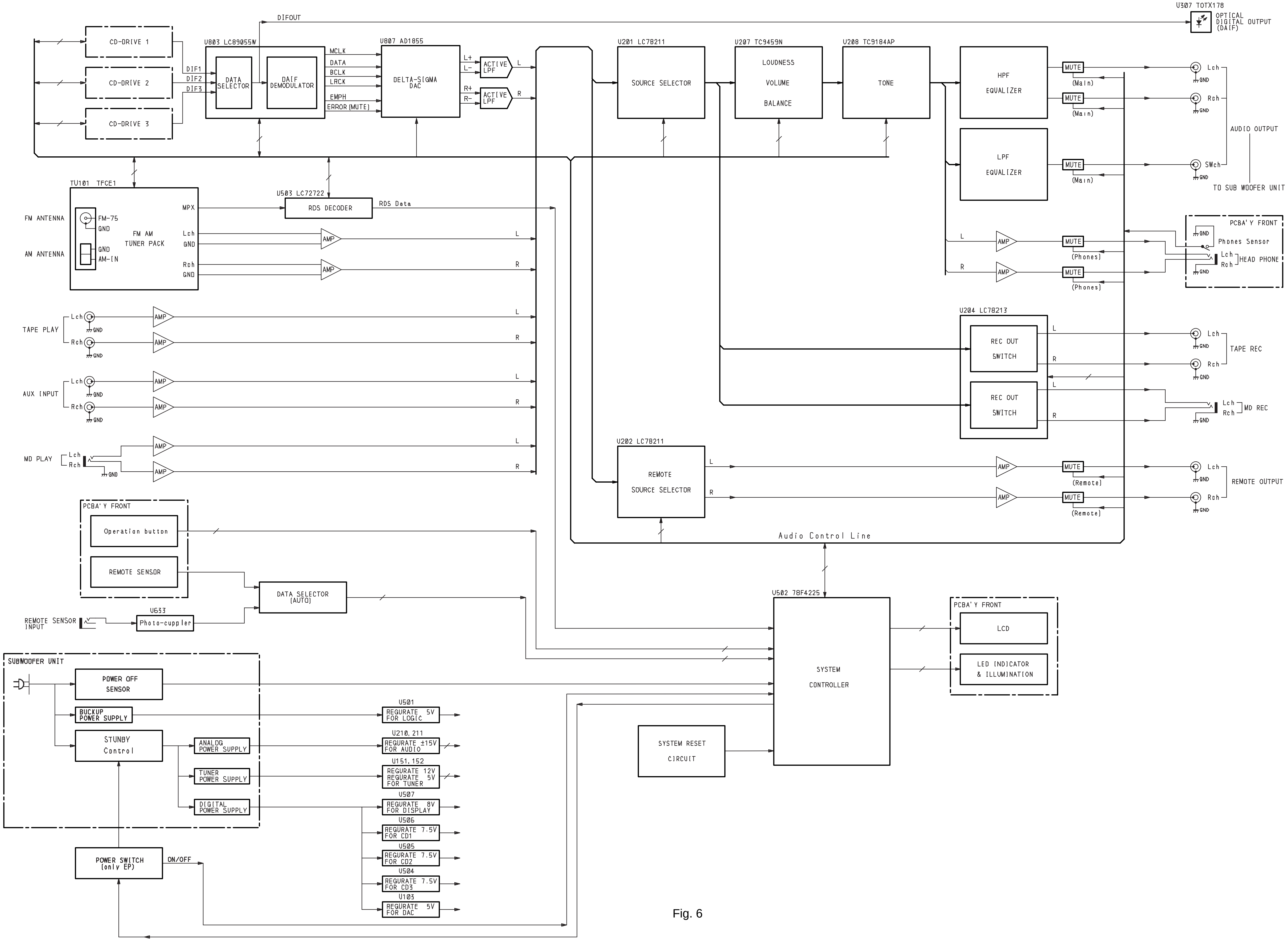
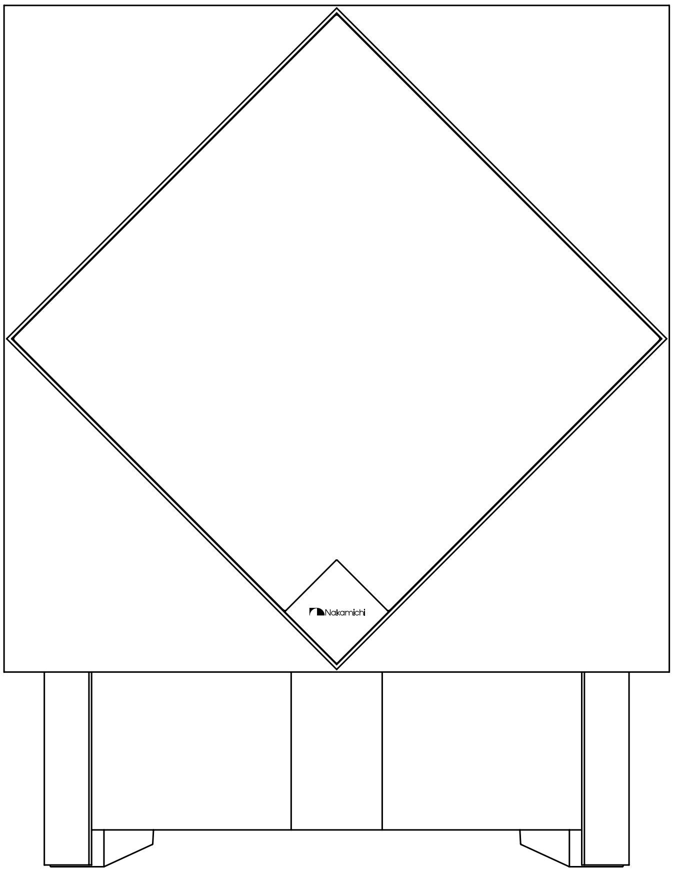


Fig. 6

Subwoofer Section



CONTENTS

1. ELECTRICAL ADJUSTMENTS

1.1. Parts Location for Electrical Adjustment

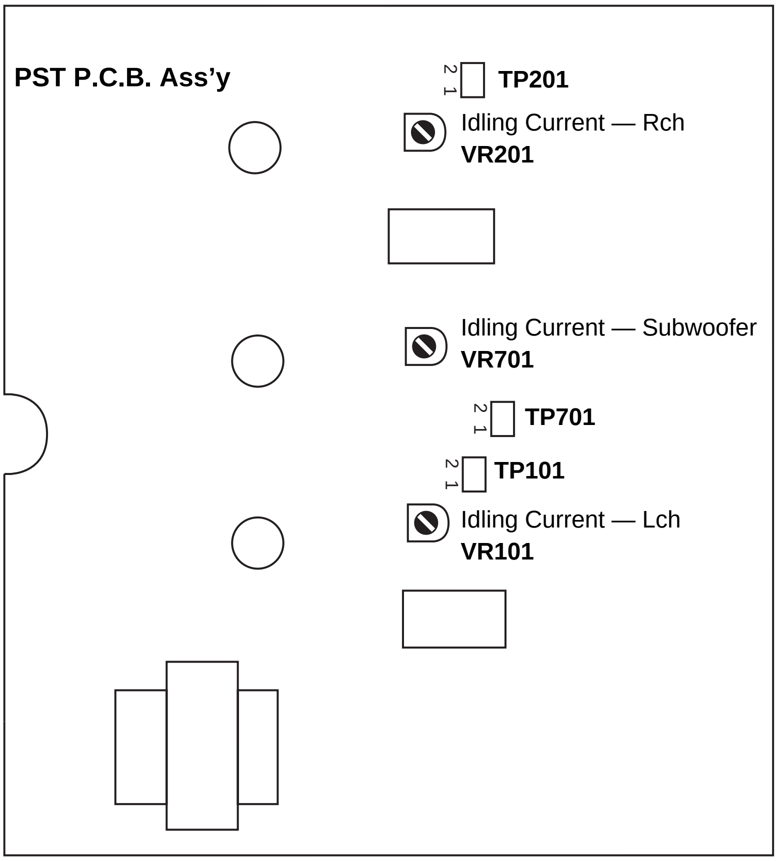


Fig. 1.1

1.2. Adjustment Procedure

STEP	ITEM	SIGNAL SOURCE	OUTPUT CONNECTION	ADJUST-MENT	REMARKS
1	Preparation	—	—	—	1. Insert shorting plugs into input L/R jacks on the Subwoofer unit. 2. Remove the PA Chassis. 3. Turn ON the power of the Subwoofer unit and allow 15 minutes before starting adjustment.
2	Idling Current Adjustment	—	DC Milli-voltmeter between pins of Test Point	VR101 (Lch)	1. Connect the DC milli-voltmeter between pins of TP101. 2. Adjust **VR101** to obtain **4.4 ± 1 mV** on the DC milli-voltmeter.
				VR201 (Rch)	1. Connect the DC milli-voltmeter between pins of TP201. 2. Adjust **VR201** to obtain **4.4 ± 1 mV** on the DC milli-voltmeter.
				VR701 (Subwoofer)	1. Connect the DC milli-voltmeter between pins of TP701. 2. Adjust **VR701** to obtain **4.4 ± 1 mV** on the DC milli-voltmeter.

2. MECHANISM ASS'Y AND PARTS LIST

2.1. Synthesis (Subwoofer)

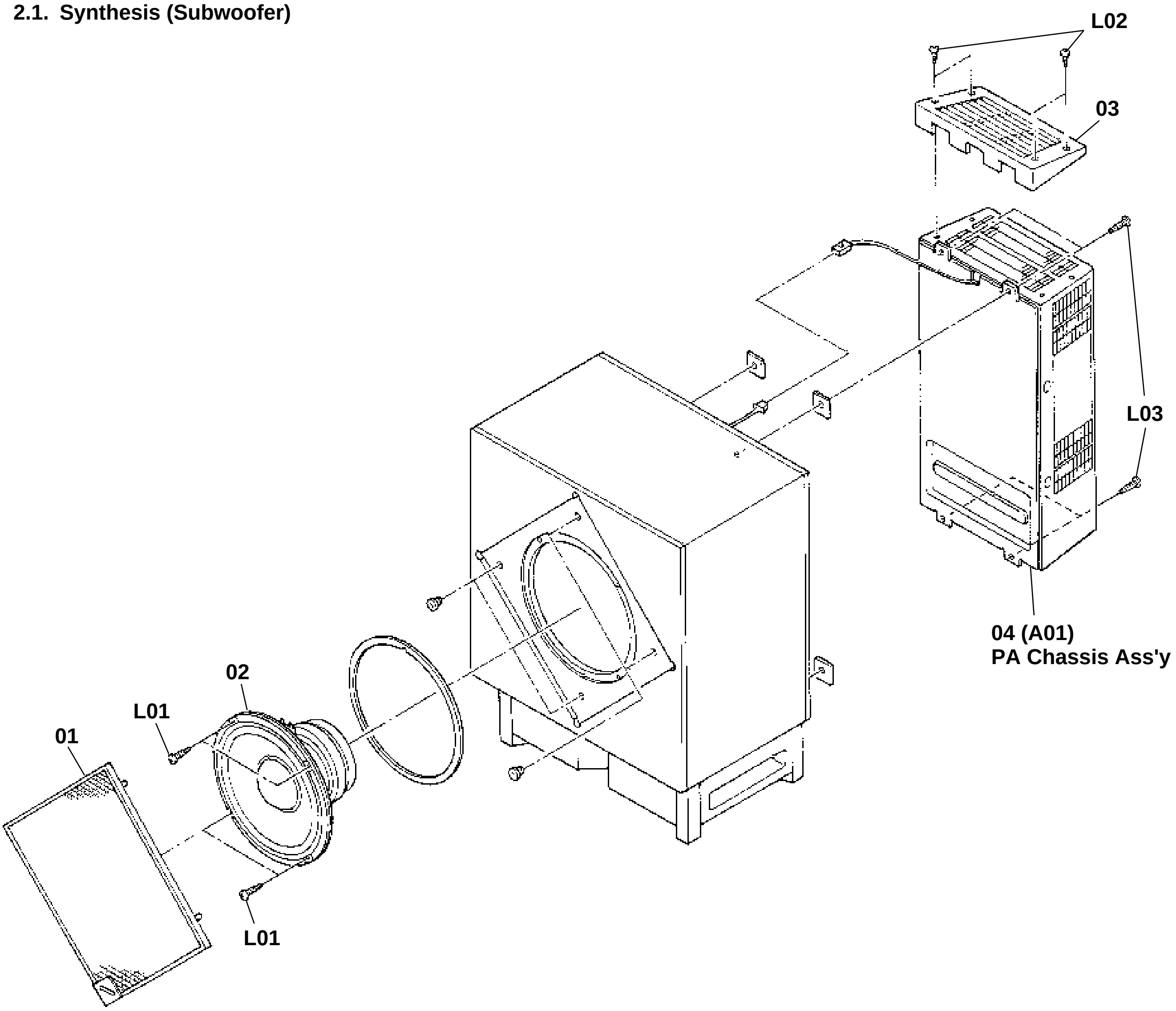


Fig. 2.1

2.1. Subwoofer Synthesis

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Synthesis (Subwoofer)**	
01	CB00729A	Subwoofer Grille Ass'y	1
02	CB00627A	Subwoofer Speaker S800L05	1
03	0H08368D	Power Amp Cover	1
04	—	PA Chassis Ass'y (Subwoofer)	1
—	CB00634A	Cord Ass'y Woofer	1
L01	2E00133A	Tapping 4x12 + Binding	
L02	0E03281A	ST3x8 + Binding (Black)	
L03	0E04141A	4x6 + Pan Tapping	

2.2. PA Chassis Ass'y (A01)

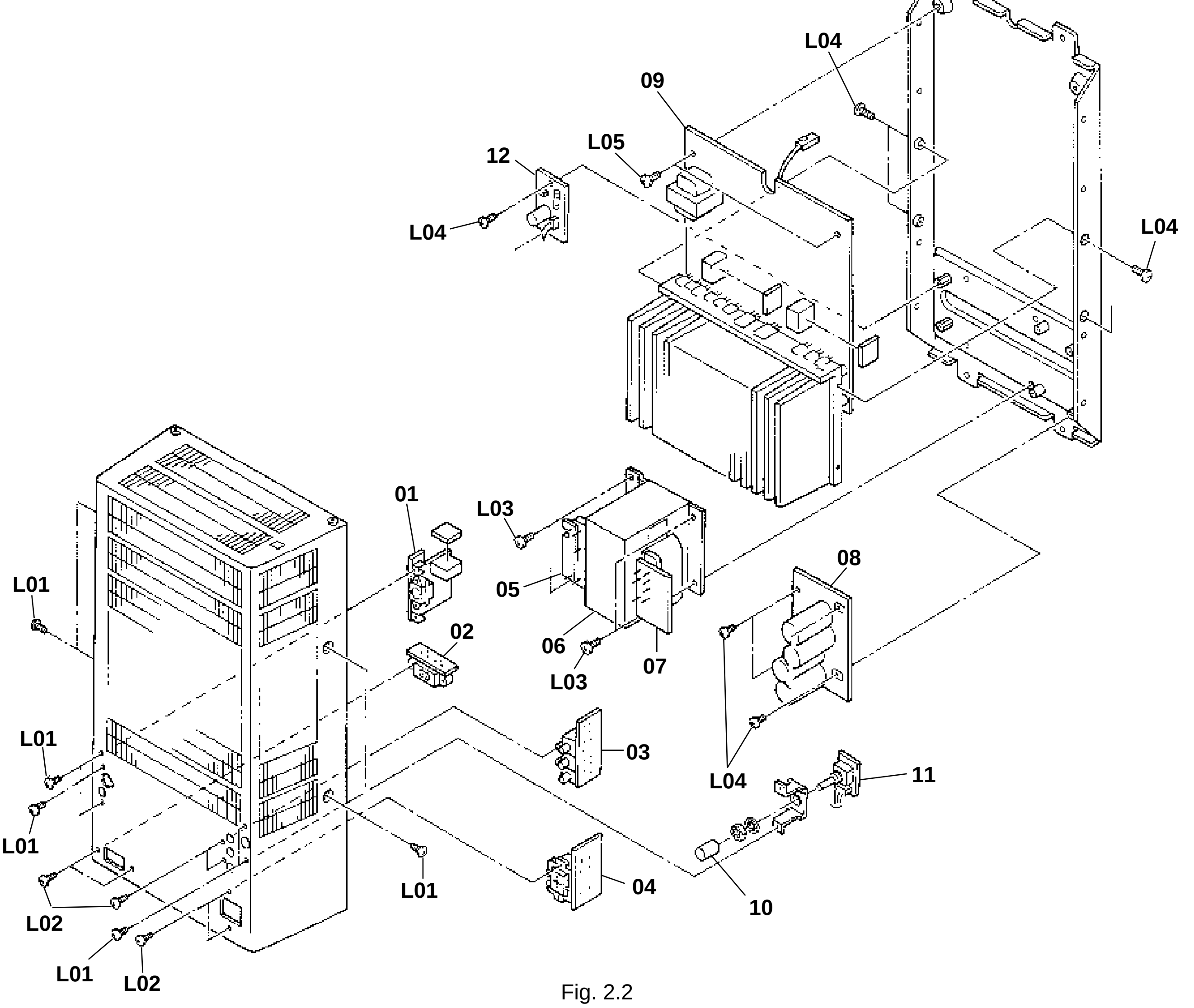


Fig. 2.2

2.2. PA Chassis Ass'y (A01)

Schematic Ref. No.	Part No.	Description	Q'ty
A01	**—**	**PA Chassis Ass'y (Subwoofer)**	**1**
01	BK10334A	REM P.C.B. Ass'y DM (JPN)	1
	BK10335A	REM P.C.B. Ass'y Except DM (Except JPN)	1
02	BK10343A	Inlet P.C.B. Ass'y UL (USA, CAN)	1
	BK10344A	Inlet P.C.B. Ass'y Except UL (Except USA, CAN)	1
03	BK10340A	Input P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)	1
	BK10341A	Input P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)	1
04	BK10332A	SP4P P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)	1
	BK10333A	SP4P P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)	1
05	BK10336A	T.PRI P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)	1
	BK10337A	T.PRI P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)	1
06	0B50367A	Power Transformer DM (JPN)	1
	0B50368A	Power Transformer TW (TW)	1
	0B50369A	Power Transformer EP (UK, AUS, EP, CH, HK, KR)	1
	0B50370A	Power Transformer UL (USA, CAN)	1
	0B50472A	Power Transformer DU/DA (OTR, DA)	1
07	BK10338A	T.SEC P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)	1
	BK10339A	T.SEC P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)	1
08	BK10329A	PS P.C.B. Ass'y	1
09	BK10328A	AMP P.C.B. Ass'y (JPN, DA)	1
	BK10488A	AMP P.C.B. Ass'y CE (UK, OTR, AUS, EP, CH, HK, KR, TW)	1
	BK10575A	AMP P.C.B. Ass'y (USA, CAN)	1
10	0H07985A	VR Knob	1
11	BK10345A	VR P.C.B. Ass'y	1
12	BK10330A	PST P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)	1
	BK10331A	PST P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)	1
—	BK10342A	V.Selector P.C.B. Ass'y (OTR, DA)	1
L01	0E03281A	ST3x8 + Binding (Black)	
L02	0E03749A	PT3x8 + Binding (Black)	
L03	0E03438A	ST4x6 + Binding	
L04	0E00964A	M3x5 + Binding (Chromate)	
L05	0E00877A	ST3x5 + Binding	

3. ELECTRICAL PARTS LIST

NOTES: 1. Abbreviations
TR – Transistor, SID – Silicon Diode, ZD – Zener Diode, Varicap – Variable Capacitance Diode
RK – Carbon Resistor, RM – Metal Film Resistor, RF – Fail Safe Type Resistor,
RC – Cement Resistor, CE – Electrolytic Capacitor, CML – Mylar Capacitor,
CC – Ceramic Capacitor, CPP – PP Capacitor, CMM – Metalized Mylar Capacitor,
CSP – Polystyrene Capacitor, C – Mica Capacitor, CT – Tantalum Capacitor
2. Description of capacitor: 10 16V = 10µ 16V
3. Parts marked with * show chip parts.

3.1. AMP P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10328A	**AMP P.C.B. Ass'y (JPN, DA)**
	BK10488A	**AMP P.C.B. Ass'y CE (UK, OTR, AUS, EP, CH, HK, KR, TW)**
	BK10575A	**AMP P.C.B. Ass'y (USA, CAN)**
U301,302	0B06146A	IC NJM4558DD
U501	0B11246A	IC UPC1237H
U801	0B10964A	IC PQ30RV31
U802	0B17020A	IC NJM7818FA
U803	0B17041A	IC NJM7918FA
IP401	0B11638A	IC IC Protector ICP-N20 0.8A
IP801,802	0B11725A	IC IC Protector ICP-10 0.4A
IP803,804	0B11638A	IC IC Protector ICP-N20 0.8A
Q101	0B06142A	TR 2SC2240
Q102	0B06142A	TR 2SC2240
Q103	0B06142A	TR 2SC2240
Q104	0B10221A	TR 2SA1145 Y
Q105	0B10199A	TR 2SC3421
Q106	0B10222A	TR 2SC2705 Y
Q107	0B12915A	TR TR 2SD2495
Q108	0B12914A	TR TR 2SB1626
Q109	0B06142A	TR 2SC2240
Q110	0B10050A	TR 2SA970BL
Q201	0B06142A	TR 2SC2240
Q202	0B06142A	TR 2SC2240
Q203	0B06142A	TR 2SC2240
Q204	0B10221A	TR 2SA1145 Y
Q205	0B10199A	TR 2SC3421
Q206	0B10222A	TR 2SC2705 Y
Q207	0B12915A	TR TR 2SD2495
Q208	0B12914A	TR TR 2SB1626
Q209	0B06142A	TR 2SC2240
Q210	0B10050A	TR 2SA970BL
Q501	0B06013A	TR 2SA733
Q701	0B06142A	TR 2SC2240
Q702	0B06142A	TR 2SC2240
Q703	0B06142A	TR 2SC2240
Q704	0B10221A	TR 2SA1145 Y
Q705	0B10199A	TR 2SC3421
Q706	0B10222A	TR 2SC2705 Y
Q707	0B12859A	TR 2SD2386
Q708	0B12861A	TR 2SB1557
Q709	0B06142A	TR 2SC2240
Q710	0B10050A	TR 2SA970BL
Q801	0B10980A	TR 2SD2531
Q802,803	0B06100A	TR 2SC945
ZD301,302	0B12174A	ZD RD12V JS B2
ZD501	0B12150A	ZD RD5.6V JS B2
ZD801	0B12174A	ZD RD12V JS B2
D101,102	0B12249A	SID 1SS133
D103	0B12249A	SID 1SS133
D201,202	0B12249A	SID 1SS133
D203	0B12249A	SID 1SS133
D407	0B12249A	SID 1SS133
D501,502	0B12249A	SID 1SS133
D503,504	0B12249A	SID 1SS133
D505	0B12249A	SID 1SS133
D601	0B12249A	SID 1SS133
D701,702	0B12249A	SID 1SS133
D703	0B12249A	SID 1SS133
D801,802	0B10900A	SID 1S139
D803,804	0B10900A	SID 1S139
T801	0B50433A	Sub Transformer DM/UL (JPN, OTR, USA, CAN, DA, TW)
T801	0B50434A	Sub Transformer EP/OTR (UK, AUS, EP, CH, HK, KR)
L101	0B50336A	Coil 0.8uH
L201	0B50336A	Coil 0.8uH
L701	0B50336A	Coil 0.8uH
VR101	0B32188A	Semi VR 200 Top
VR201	0B32188A	Semi VR 200 Top
VR701	0B32188A	Semi VR 200 Top
R118,119	0B09177R	RF 47 1/4W
R120,121	0B24028A	RF 0.22 1W
R128	0B24388A	RF 5.6 1W
R129	0B24122A	RF 10 2W
R218,219	0B09177R	RF 47 1/4W
R220,221	0B24028A	RF 0.22 1W
R228	0B24388A	RF 5.6 1W
R229	0B24122A	RF 10 2W
R507	0B24497R	RF 100 2W
R718,719	0B09177R	RF 47 1/4W
R720,721	0B09995A	RF 0.22 2W
R728	0B24388A	RF 5.6 1W
R729	0B24122A	RF 10 2W
R801	0B20683A	RF 1K 1W
R830	0B21652A	RK 4.7M 1/2W J (USA, CAN)
C105	0B41209A	CPP 220P 100V J (UK, AUS, EP, CH, HK, KR)
C205	0B41209A	CPP 220P 100V J (UK, AUS, EP, CH, HK, KR)
C705	0B41209A	CPP 220P 100V J (UK, AUS, EP, CH, HK, KR)
C719,720	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
F401	0B90830A	Fuse RP 4A 125V
RL501,502	0B90904A	Relay OSA-SS-224DM
TF101	0B90322A	Thermal Fuse 126
TF201	0B90322A	Thermal Fuse 126
TF501	0B90322A	Thermal Fuse 126
TF701	0B90322A	Thermal Fuse 126
TH501	2B10071A	Thermistor 50KDD130
W9000	0J08437A	Cool Sheet

3.2. REM P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10334A	**REM P.C.B. Ass'y DM (JPN)**
	BK10335A	**REM P.C.B. Ass'y Except DM (Except JPN)**
Q804	0B06100A	TR 2SC945
Q851	0B06429A	TR 2SC2655
ZD951	0B12168A	ZD RD10V JS B2
D601	0B12249A	SID 1SS133
C401	0B90936A	Spark Killer (Except JPN)
C401	0B90961A	Spark Killer 4700P (JPN)
CN801	0B80668A	DIN 13P Socket
RL601	0B90903A	Relay SDT-S112LMR
TF901	0B90322A	Thermal Fuse 126

3.3. Input P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10340A	**Input P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)**
	BK10341A	**Input P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)**
C101	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
C101	0B41517A	CML 1000P 50V J (JPN, OTR, USA, CAN, DA, TW)
C201	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
C201	0B41517A	CML 1000P 50V J (JPN, OTR, USA, CAN, DA, TW)
C701	0B41288A	CML 0.015 50V J (UK, AUS, EP, CH, HK, KR)
C701	0B41517A	CML 1000P 50V J (JPN, OTR, USA, CAN, DA, TW)
PJ311	0B85352A	3P Pin Jack

3.4. PS P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10329A	**PS P.C.B. Ass'y**
D401,402	0B10520A	GBU6D
D403,404	0B12836A	SID 1SR35-400A
D405,406	0B12836A	SID 1SR35-400A
C402,403	0B40910A	CE 6800 35V
C404,405	0B40910A	CE 6800 35V
C406	0B40893R	CE 2200 25V

3.5. PST P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10330A	**PST P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)**
	BK10331A	**PST P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)**
D408,409	0B12836A	SID 1SR35-400A
D410,411	0B12836A	SID 1SR35-400A
F403	0B90840A	Fuse F 300mA 250V (JPN, OTR, USA, CAN, DA, TW)
F403	0B90857A	Fuse T 160mA L250V (UK, AUS, EP, CH, HK, KR)

3.6. SP4P P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10332A	**SP4P P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)**
	BK10333A	**SP4P P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)**
C119,120	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
C219,220	0B41278A	CML 2200P 50V J (UK, AUS, EP, CH, HK, KR)
CN611	0B85354A	4P Speaker Terminal

3.7. T.PRI P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10336A	**T.PRI P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)**
	BK10337A	**T.PRI P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)**
F401	0B90830A	Fuse RP 4A 125V (JPN, OTR, USA, CAN, DA, TW)
F401	0B90868A	Fuse T 2AL250V (UK, AUS, EP, CH, HK, KR)

3.8. T.SEC P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10338A	**T.SEC P.C.B. Ass'y CE (UK, AUS, EP, CH, HK, KR)**
	BK10339A	**T.SEC P.C.B. Ass'y Except CE (JPN, OTR, USA, CAN, DA, TW)**
F402	0B90828A	Fuse RP 3A 125V (JPN, OTR, USA, CAN, DA, TW)
F402	0B90867A	Fuse T 1.6A L250V (UK, AUS, EP, CH, HK, KR)

3.9. Inlet P.C.B. Ass'y

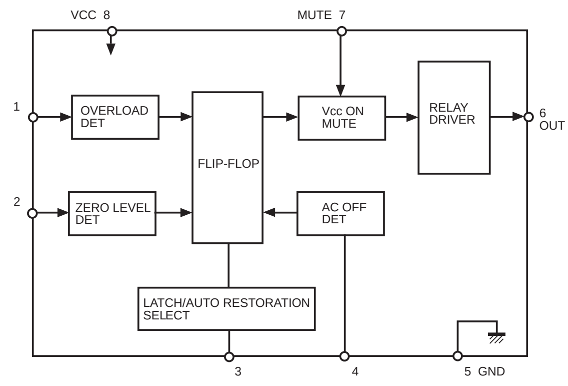
Schematic Ref. No.	Part No.	Description
	BK10343A	**Inlet P.C.B. Ass'y UL (USA, CAN)**
	BK10344A	**Inlet P.C.B. Ass'y Except UL (Except USA, CAN)**
	0B85361A	AC Inlet (USA, CAN) (1)
	0B85362A	AC Inlet (Except USA, CAN) (1)

3.10. VR P.C.B. Ass'y

Schematic Ref. No.	Part No.	Description
	BK10345A	**VR P.C.B. Ass'y**
VR301	0B30214A	VR50K(A)X2 14BLACK

3.11. V. Selector P.C.B. Ass'y

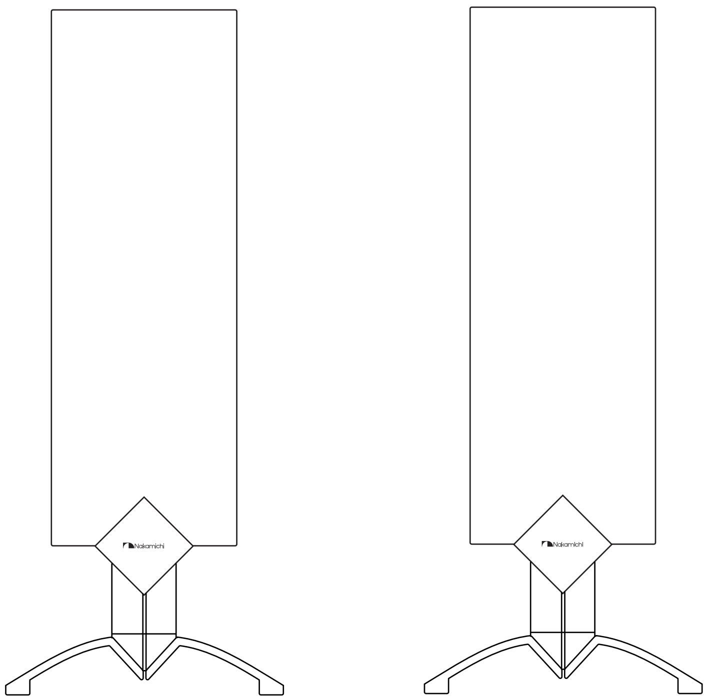
Schematic Ref. No.	Part No.	Description
	BK10342A	**V.Selector P.C.B. Ass'y (OTR, DA)**
	0B70285A	Voltage Switch (OTR, DA)



Amp. Protector µPC1237H (U501)

Satellite
Speaker

Satellite Speaker Section



CONTENTS

1. MECHANISM ASS'Y AND PARTS LIST

1.1. Satellite Ass'y (Front/Rear)

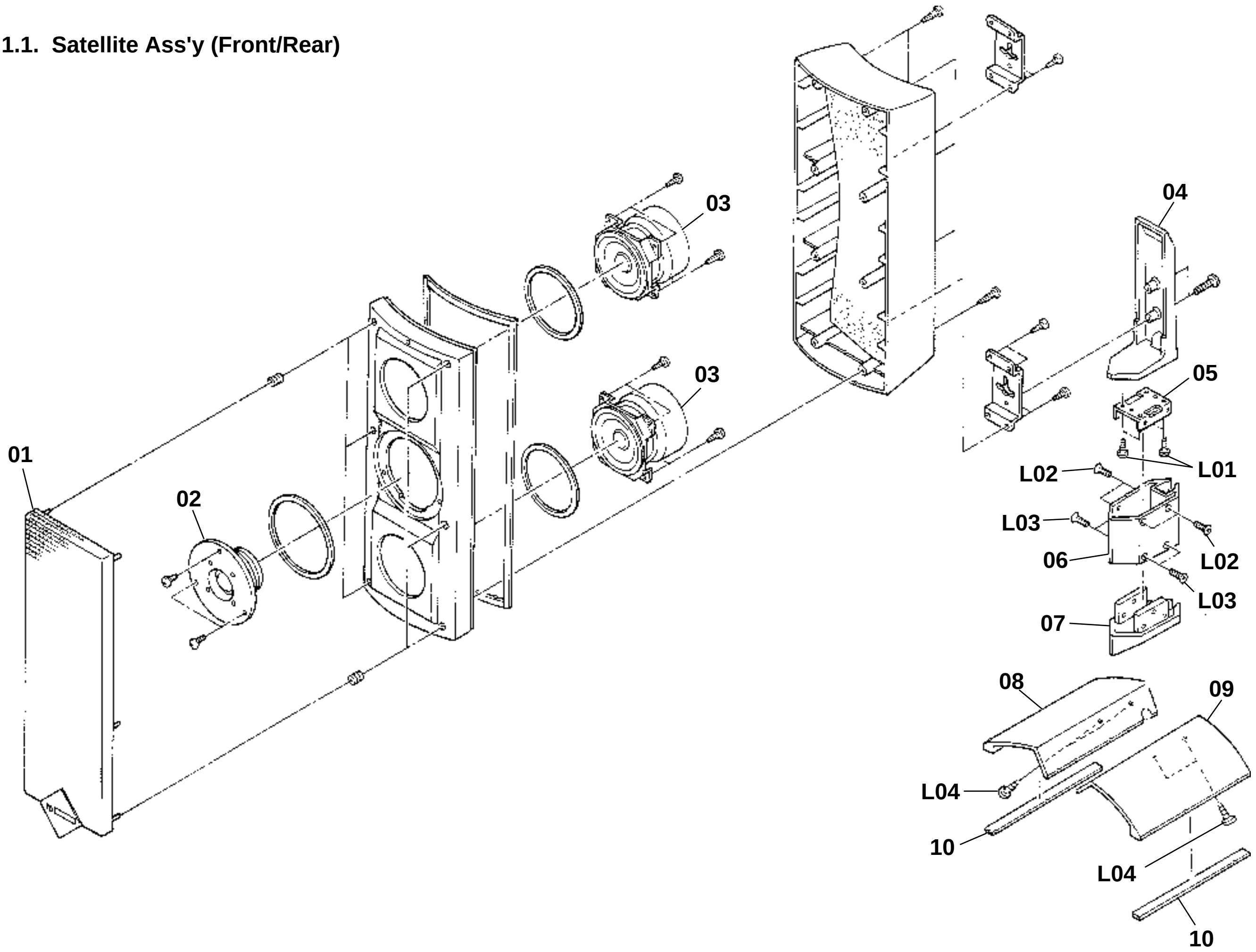


Fig. 1.1

1.1. Satellite Ass'y (Front/Rear)

Schematic Ref. No.	Part No.	Description	Q'ty
	—	**Satellite Ass'y (Front/Rear)**	
01	CB00689A	Satellite Grille Ass'y	1
02	CB00638A	Satellite Tweeter	1
03	CB00637A	Satellite Woofer Speaker S350F02	2
04	0H08822C	Stand Holder Speaker	1
05	0J08722A	S Holder Fix Plate	1
06	0H08796B	Stand Pole	1
07	0H08791D	Base Joint	1
08	0H08794B	Stand Base Speaker L	1
09	0H08795B	Stand Base Speaker R	1
10	0J08794A	Base Cushion Speaker S	2
L01	0E04243A	PT4x8 + Binding	
L02	0E03753A	M4x8 + Countersunk	
L03	0E04323A	BT4x10 + Oval Countersunk	
L04	0E03972A	BT4x12 + Binding	

SPECIFICATIONS

● CD Player Section

Outputs (SONY TYPE-3) (1 kHz, 0 dB)
  Rec Output Level .... 2.0 V ± 2 dB (Tr. No. 1)
Total Harmonic Distortion + Noise (SONY TYPE-3)
  1 kHz 0 dB .... Less than 0.006% (Tr. No. 1)
Frequency Response (SONY TYPE-3)
  20 Hz - 20 kHz .... 0 dB ± 2 dB
Channel Separation (SONY TYPE-3)
  1 kHz 0 dB .... More than 75 dB (Tr. No. 30,34)
Signal to Noise Ratio (SONY TYPE-3) ..... More than 95 dB (Tr. No. 23)
De-emphasis (SONY TYPE-3)
  1 kHz .... -0.4 dB ± 2 dB (Tr. No. 39)
  5 kHz .... -4.5 dB ± 2 dB (Tr. No. 40)
  16 kHz .... -9 dB ± 2 dB (Tr. No. 41)
Dynamic Range
  1 kHz -60 dB .... More than 95 dB (Tr. No. 20)

● FM Tuner Section

[Standard Test Condition (S.T.C.)]

RF input levels are given re 75 Ohms Antenna Terminal, 1 kHz, 65 dBf

Modulation	MONO: 100%, Stereo: Pilot 10%, audio 90%	
RF Frequency	USA, CAN, OTR, EP	98.1 MHz
	JPN	83.0 MHz
Tuning Range	USA, CAN	87.5 - 107.9 MHz 200 kHz steps
	JPN	76.0 - 90.0 MHz 100 kHz steps
	OTR, EP, HK, TW	87.5 - 108.0 MHz 50 kHz steps

Mono Section

Usable Sensitivity (THD 3%) (19 kHz L.P.F.)
  JPN, USA, CAN .... Less than 22 dBμV
  EP, OTR .... Less than 20 dBμV
Quieting Sensitivity (S/N = 50 dB) (19 kHz L.P.F.)
  JPN, USA, CAN .... Less than 27 dBμV
  EP, OTR .... Less than 25 dBμV
Output Level .... 700 mV ± 3 dB
Signal to Noise Ratio (19 kHz L.P.F.) .... More than 65 dB
Distortion (19 kHz L.P.F.) .... Less than 1.0%
Frequency Response (@1 kHz 0 dB without IHF-Filter)
  30 Hz .... 0 dB ± 3 dB
  15 kHz .... -15 dB ± 3 dB
Seek Stop Level .... Within 16 dBμV to 34 dBμV

Stereo Section

Stereo Separation (1 kHz) (19 kHz L.P.F.)
  JPN, USA, CAN .... More than 25 dB
  EP, OTR .... More than 34 dB
Signal to Noise Ratio .... More than 60 dB
Distortion .... Less than 1.5%

● AM Tuner Section

[Standard Test Condition (S.T.C.)]

RF input levels are given by Loop Antenna, 90 dB/m

Modulation .... 30% mod., 400 Hz

RF Frequency .... U.S.A. Band - 1000 kHz
Europe Band - 999 kHz

Tuning Range .... USA, CAN 530 kHz - 1710 kHz 10 kHz step
EP 531 kHz - 1602 kHz 9 kHz step
JPN 522 kHz - 1629 kHz 9 kHz step

Usable Sensitivity (S/N = 20 dB) .... Less than 58 dBµ

Output Level (Rec Out) .... 200 mV ± 4 dB

Signal to Noise Ratio (@0 dB = "Above Output Level")
.... More than 43 dB

Distortion .... Less than 2.0%

Frequency Response (@400 Hz 0 dB without Filter)
50 Hz .... More than -15 dB
3 kHz .... More than -18 dB

Seek Stop Level .... Within 45 dBµV to 66 dBµV

● Pre Amplifier Section

[Standard Test Condition (S.T.C.)]

Signal.. 1 kHz

Input AUX .... 200 mV

Output Pre out .... 1000 mV

Sensitivity (Output 1000mV)
Satellite 1 kHz .... 150 mV ± 2 dB
Subwoofer 20 Hz .... 84 mV ± 2 dB

Signal to Noise Ratio (Input Shorted) .... More than 95 dB (A-WTD)

Frequency Response (Satellite, Ref. 1 kHz)
Satellite 300 Hz to 3 kHz .... 0 dB ± 2 dB
60 Hz .... -12 dB ± 2 dB
20 kHz .... +4 dB ± 2 dB
Subwoofer 30 Hz .... +5 dB ± 2 dB
300 Hz .... -12 dB ± 2 dB

Distortion .... Less than 0.01%

Separation 1 kHz .... More than 74 dB

Tone Control (Output 1000 mV)
Bass Subwoofer 20 Hz .... +10 dB ± 2 dB
-10 dB ± 2 dB
Treble 20 kHz .... +10 dB ± 2 dB
-10 dB ± 2 dB

Loudness (VR: 30)
Subwoofer 20 Hz .... +10 dB ± 3 dB
Satellite 20 kHz .... +6 dB ± 3 dB

Output (Input 200 mV)
Remote 1 kHz .... 200 mV ± 2 dB
Rec Out 1 kHz .... 200 mV ± 2 dB
Maximum Output Level
1% THD .... More than 7 V

● Power Amplifier Section

[Standard Test Condition (S.T.C.)]
Signal .... 1 kHz
Output .... 1 W

Output Power (1 ch driven, 1 kHz)
Satellite 4 Ohms Load .... More than 30 W at 0.1% Dist.
Woofer 4 Ohms Load .... More than 50 W at 0.1% Dist.
Frequency Response
20 Hz to 20 kHz .... 0 dB ± 2 dB
Distortion (at Rated Power)
20 Hz to 20 kHz .... Less than 0.3%
Signal to Noise Ratio (at Rated Power) .... More than 95 dB
Input Sensitivity (at Rated Power)
Satellite .... 850 mV ± 2 dB
Subwoofer .... 1100 mV ± 2 dB

● Satellite Speaker Unit

Enclosure .... 2-way sealed type
Speaker Unit
Midrange/Woofer .... 8-cm round cone × 2
Tweeter .... 2.5-cm semi-dome
Impedance .... 4 ohms
Rated Power Handling .... 30 W
Maximum Power Handling .... 50 W

● Remote Control Unit

Principle .... Infrared pulse system
Power Supply .... 3 VDC (1.5 V × 2)
Dimensions*
Main Remote Control .... 65 (W) × 29 (H) × 182 (D) mm
2-9/16 (W) × 1-1/8 (H) × 7-5/32 (D) inches
Sub Remote Control .... 49 (W) × 26 (H) × 110 (D) mm
1-15/16 (W) × 1 (H) × 4-5/16 (D) inches
Mass
Main Remote Control .... Approx. 100 g, 3.5 oz. (including batteries)
Sub Remote Control .... Approx. 60 g , 2.1 oz. (including batteries)

● General

Power Requirements
U.S.A. model .... AC120V 60 Hz
Europe model .... AC230V 50/60 Hz

OTR model	AC110-120/220-240V 50/60 Hz
JPN model	AC100V 50/60 Hz
Power Consumption	280 W max.
Dimensions*	
Main unit	523 (W) × 523 (H) × 115 (D) mm 20-5/8 (W) × 20-5/8 (H) × 4-1/2 (D) inches
Main Unit (with tabletop stand)	523 (W) × 622 (H) × 215 (D) mm 20-5/8 (W) × 24-1/2 (H) × 8-1/2 (D) inches
Main Unit (with floor stand)	523 (W) × 1,173 (H) × 330 (D) mm 20-5/8 (W) × 46-3/16 (H) × 13 (D) inches
Subwoofer/Power Amplifier	380 (W) × 491 (H) × 355 (D) mm 15 (W) × 19-3/8 (H) × 14 (D) inches
Satellite Speaker	120 (W) × 347 (H) × 116 (D) mm 4-3/4 (W) × 13-11/16 (H) × 4-9/16 (D) inches
Satellite Speaker (with tabletop stand)	186 (W) × 453 (H) × 160 (D) mm 7-5/16 (W) × 17-7/8 (H) × 6-5/16 (D) inches
Satellite Speaker (with floor stand)	332 (W) × 1,173 (H) × 260 (D) mm 13-1/16 (W) × 46-3/16 (H) × 10-1/4 (D) inches
Mass	
Main Unit	Approx. 10 kg, 22 lbs. 1 oz.
Main Unit (with tabletop stand)	Approx. 11.5 kg, 25 lbs., 6 oz.
Main Unit (with floor stand)	Approx. 14 kg, 30 lbs., 14 oz.
Subwoofer/Power Amplifier	Approx. 19 kg, 41 lbs., 14 oz.
Satellite Speaker	Approx. 2.8 kg, 6 lbs., 3 oz.
Satellite Speaker (with tabletop stand)	Approx. 3.7 kg, 8 lbs., 3 oz.
Satellite Speaker (with floor stand)	Approx. 6.7 kg, 14 lbs., 12 oz.
Supplied Accessories	Control cable × 1 3-P RCA pin plug cable × 1 Speaker cable × 2 Cable stopper × 1 AM loop antenna × 1 Dipole antenna × 1 Antenna adapter × 1 IEC R03 (size AAA) battery × 4 Main unit tabletop stand × 1 Satellite speaker tabletop stand × 2 Main unit floor stand × 1 Satellite speaker floor stand × 2 M5x30 screw × 2 M5x20 screw × 4 Top cover × 1 For main unit Tabletop stand rear cover × 1 For satellite speaker Tabletop stand rear cover × 2

For main unit
Floor stand rear cover × 1
For satellite speaker
Floor stand rear cover × 2
Floor stand base cover × 1
Speaker cushion × 2
Main unit installation fittings × 2
M5x20 tapping screw × 2
Satellite speaker installation screw × 4
Template × 1

* Dimensions do not include protruding parts. Height is the panel height.
• Specifications and design are subject to change for further improvement without notice.


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Nakamichi America	18375 S Broadwick Street Rancho Dominguez, CA 90220 Phone: 1 (310) 631-2122 Fax: 1 (310) 631-2760
Nakamichi Asia	8/F The Grande Bldg., 398 Kwun Tong Rd., Kowloon, Hong Kong Phone: 852-2357-6690 Fax: 852 -2357-6697
Nakamichi Europe	8th Floor, Hayes Gate House, 27 Uxbridge Road Hayes, Middlesex, UB4 OJN, England Phone: 44-181-581-9191 Fax: 44-181-581-9153
Web Site	http://www.nakamichi.com

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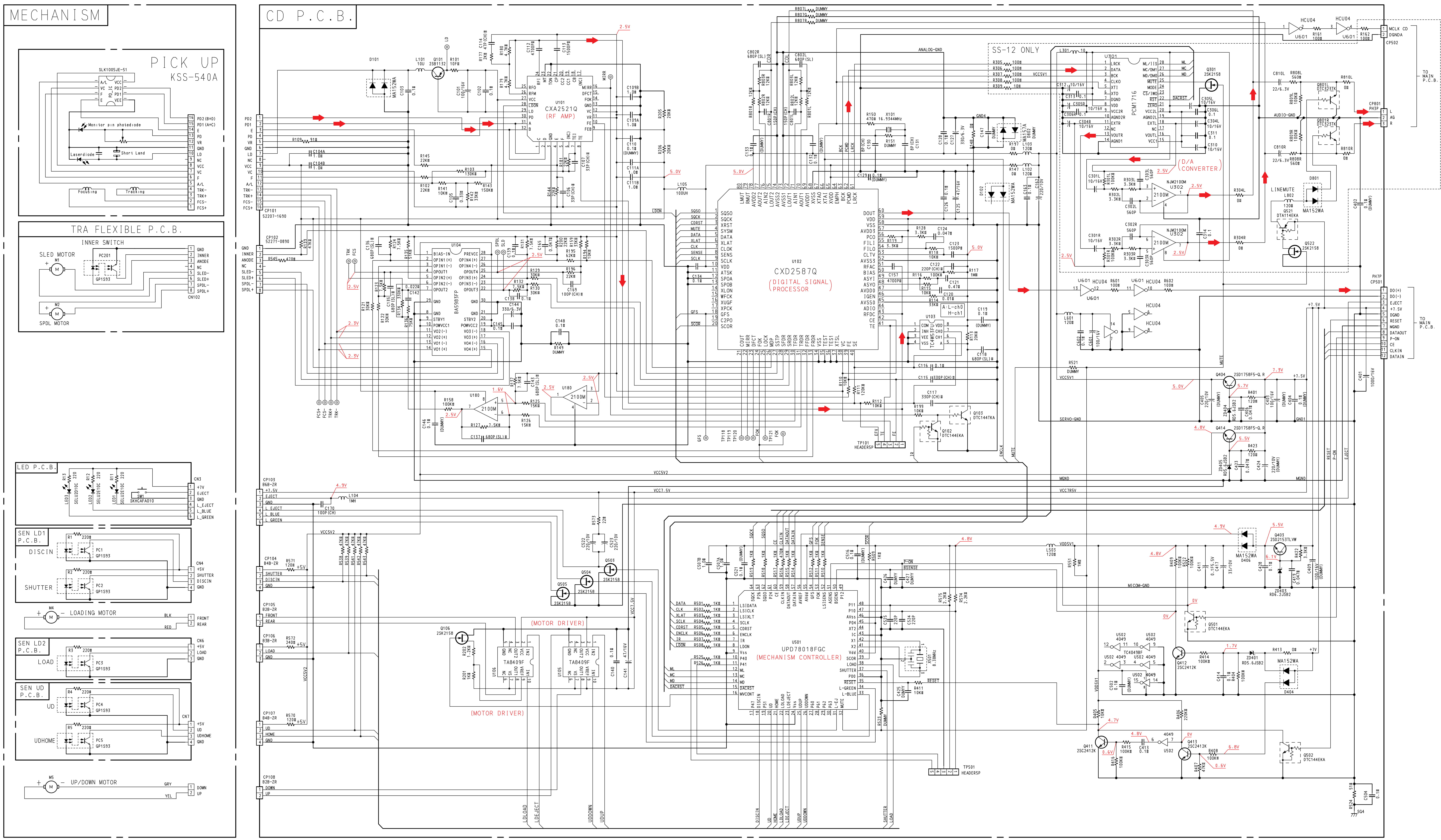
SS-9

Main Unit Section - Main P.C.B. Ass'y



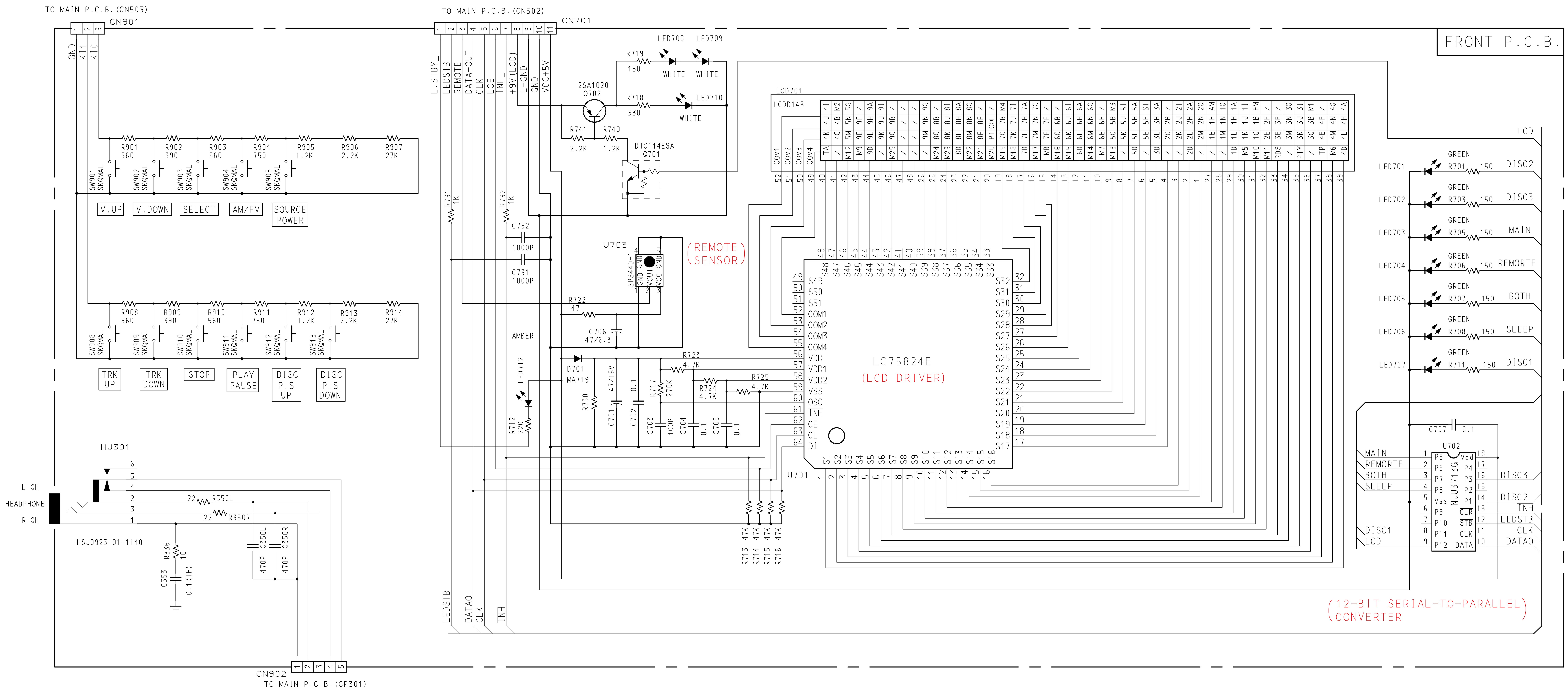
SS-9

Main Unit Section - CD P.C.B. Ass'y



#:CHIP PARTS
DUMMY:NOT MOUNTED
(DUMMY):SS-9 MOUNTED/SS-12 NOT MOUNTED

Main Unit Section - Front P.C.B. Ass'y



Subwoofer Section

